Before an Expert Panel **FTAA-2507-1089**
Bendigo-Ophir Gold Project

Under the	Fast Track Approvals Act 2024
In the matter of	an application for approvals to establish, operate, and remediate an open pit and underground gold mine at Bendigo and Ardgour Stations
By	**Matakanui Gold Limited** Applicant

STATEMENT OF EVIDENCE OF ELIZABETH ANNE STEVEN
LANDSCAPE

10 April 2026

Environmental Defence Society Inc
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Counsel acting: Rob Enright [redacted] and Jen Vella [redacted]

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INTRODUCTION

1. My name is Elizabeth Anne Steven.

2. I have been asked by the Environmental Defence Society (EDS) to independently review landscape matters related to the Bendigo-Ophir Gold Project (BOGP) located in the Rise and Shine and Shepherds Creek valleys on the west side of the Dunstan Range, and on the adjacent Ardgour basin terraces near Tarras, Central Otago.

Qualifications and experience

3. I am a Registered Landscape Architect with the NZ Institute of Landscape Architects. My qualifications are a post-graduate Dip. L.A (1988) and a B.Sc. (Geography) (1986). I have 37 years of professional experience. I have had a sole consultancy practice in Wanaka since 2001 (ASLA Ltd).

4. The majority of my work is in the area of landscape description and characterisation, evaluation and classification, natural character assessment, and in the assessment of landscape effects of proposals mainly in the rural landscape.

5. I have appeared as an expert landscape witness at many council and Environment Court hearings.

6. I have not carried out any assessments related to proposed mining projects apart from an assessment of an increase in the height of the Tailing Storage Facility at Oceana Gold Ltd (Macraes Mine) for the Waitaki District Council in 2021. I have carried out assessments for several large scale wind farm facilities over the last 10-12 years including Project Hayes, Mill Creek, Hurunui and Southland wind farms and larger scale urban developments (recently Shannon Farm in Cromwell, and Sticky Forest in Wanaka).

7. My work has spanned consultancy for applicants, advice and expert opinion for submitters, and expert advice mainly in peer review format as well as primary assessment for district councils. I also spent many years as a consultant landscape architect to the Department of Conservation in relation to tenure review of crown pastoral leases.

Code of Conduct and declaration of interest

8. Although this is not an Environment Court hearing, I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023. This evidence is within my area of expertise, except where I state that I am relying on material produced by another person. I have not omitted to consider

material facts known to me that might alter or detract from the opinions that I express.

9. I am a committee member of the Central Otago-Lakes branch of Forest & Bird. Whilst Forest & Bird has been invited to comment on the BOGP, my local branch is not directly involved in this process and I have not had input into Forest & Bird's comments. I am also a founding member of the Upper Clutha-Lakes Equestrian Access Group (UCL EAG) under the NZ Equestrian Access Network Inc (NZEAN). The aim of the UCL EAG is to protect and improve equestrian access and the equestrian experience within our area.

Material considered and site visit

10. In preparing my evidence I have read and/or referred to a number of documents which I list in Appendix 1. In my evidence when I refer to a page number of a document on the Fast Track website I refer to the number on the top menu bar of the screen reader. I also provide a glossary of acronyms I use in my evidence in Appendix 1.

11. I refer mainly to the Boffa Miskell ("BM") ONL study report, the BOGP landscape effects assessment and graphic supplement[1], referred to hereinafter as the "BM assessment" (generally) and specifically the "BM ONL Report", "BM Effects Report" or the "BM GS".

12. I am familiar with the landscape setting of the BOGP having passed through it many times in the last 25 years as a result of residing in Wānaka. I specifically visited the BOGP Site (the "Site") and environs several times over a period from August 2025 to March 2026 in order to understand the proposals and prepare this evidence. I participated in a Santana-escorted site visit on 27 March 2026.

13. In preparing this evidence, I am aware that the Panel has issued a number of requests for further information from the applicant, set out in a request for further information dated 1 April 2026, some of which are relevant to my area of expertise. My evidence has been prepared in advance of the applicant's responses being provided to the Panel and parties, including EDS. As a result, I wish to reserve my ability to update my evidence in light of the additional information provided, where material and relevant to my expertise. In addition, I understand that proposed consent conditions may evolve during the fast-track process, and I request an opportunity to comment on material changes to these, again where relevant to my area of technical expertise.

[1] K.02-Boffa-Miskell-Assessment-of-Dunstan-Mountains-Outstanding-Natural-Landscape-dated-May-2024-10-March-2026 and
B.19-Boffa-Miskell-Landscape,-Natural-Character-and-Visual-Effects-Assessment-Boffa-Miskell-2025_Part1 and B.19A-Boffa-Miskell-Landscape-Graphic-Supplement

14. In this evidence, I have provided a high level recommendation on consent conditions, pending a more comprehensive analysis once I have reviewed the applicant's responses to the requests for further information, participated in expert caucusing which I understand the Panel has indicated will occur, and once the uncertainties identified in my evidence are addressed. All of these things will impact the appropriateness of the consent conditions framework.

Scope of evidence

15. My evidence focuses on information gaps and inconsistencies in the Boffa Miskell study and highlights areas of disagreement. The purpose of my evidence is to assist the Panel's understanding of the landscape effects (nature and magnitude) of the BOGP and in particular effects on the values of the Outstanding Natural Landscape (ONL).

16. My evidence addresses:

    (a) Methodological issues;

    (b) Adequacy of Identification, Analysis and Evaluation of Landscape Context(s) noting information gaps

    (c) Thoroughness of understanding of the Site and its values and their significance noting information gaps

    (d) Adequacy of identification of relevant planning provisions and key landscape issues

    (e) Credibility of findings on assessment of landscape effects

    (f) Consent conditions

17. My evidence includes an Appendix, and Graphic Attachments (referenced as GA A through to GA H).

EXECUTIVE SUMMARY

Methodology

18. The effects assessment methodology applied by Boffa Miskell is generally in accordance with good practice. There are a number of omissions and inconsistences however which have affected the credibility of the assessment of effects. A methodological matter that requires further consideration is environmental compensation for residual adverse landscape effects.

Landscape context identification and analysis

19. Landscape context identification and analysis is typically "nested" in approach. A focus on the central western part of the Dunstan Mountains as the setting has overlooked the broader context of the range as one of five ranges comprising the distinctive landscape of Central Otago. The context more directly relevant to the assessment is the Bendigo-Tarras Basin with the ONL of the Dunstan Mountains as part of that. Overall the contextual analysis in my opinion does not demonstrate the scope and level of detail required for a proposal of this scale, complexity and potential magnitude of effect and, in my view, contains information gaps. This has contributed to an incomplete evaluation process which consequently has resulted in an under-assessment of adverse effects in scope and magnitude. Significant information gaps relate to historic heritage, the Otago Conservation Management Strategy and the Tarras Community Plan. The identification of viewing locations/viewing audiences is incomplete with a bias towards highways and local roads.

20. I have identified a number of values of the Dunstan Mountains ONL in addition to or adding more detail to those articulated in the BM ONL study. I also identified character and values of the Significant Amenity Landscape of the Bendigo Terrace which covers a small part of the Site. This work provides a much richer understanding of the landscape in my opinion and a more solid basis for effects assessment.

Understanding of the Site and its values

21. Similarly, the analysis and evaluation of the Site is not, in my opinion, sufficiently thorough in scope or in detail commensurate with this project. In particular, a synthesis of the detailed Site information available through the technical reports on heritage and ecology is absent. The incomplete identification of viewing locations and audiences has been repeated in the visual appraisal of the Site. Key omissions are a number of public conservation areas and tracks on public easements and the Mata Au Clutha River corridor, as well as public places within the Site.

22. In a similar vein, the identification of the Site's values is incomplete and lacks the necessary detail. I have identified a number of additional values at Site level and provided more detail. In particular there is a dearth of values information about historic heritage and ecology, despite detailed information being available in the technical reports. The assessment is also silent on the Bendigo covenant with respect to existing Site values. I consider this has contributed to the underassessment of adverse effects of the BOGP.

23. The project visibility and visual effects analysis has omitted the same viewpoints identified previously. Consequently, there has been an under-estimation of visual effect particularly with respect to the different type of viewing audience. I undertook

an independent visual analysis. The visibility of the mine project would be at least moderate to high, despite distance, due to visual discordancy. The visual effect would be at least Moderate-High with some Very High effects in closer views from publicly accessible viewing points. The Ardgour terrace elements would be of lesser visual effect due to greater consistency in character with the basin floor landscape.

24. In my opinion the long-term remediation would reduce visual effect in a number of respects. However the large man-made landforms and the open pits would remain incongruent with moderate to High/Very High visual effect. The visual effect of long-term vegetation change is uncertain, largely for reasons identified by the Otago Regional Council in its technical review, the Department of Conservation in evidence, and Nick Head in evidence.

Planning framework

25. Whilst the most pertinent statutory provisions have been identified in the BM Effects Report, I have identified several additional relevant statutory provisions. In particular, provisions relating to protecting significant indigenous biodiversity and habitat, landscape management of SAL as a "highly valued landscape", and protection of historic heritage. Policy 5.4.8 of the Otago RPS (2019) providing for mining is a core provision. Whilst it overrides policies relating to indigenous vegetation and historic heritage, it also requires the maintenance of the outstanding nature of landscape (which inherently necessitates maintaining its values such as ecological and historic heritage values).

Key landscape issues

26. Typically in effects assessment methodology, after reviewing relevant statutory provisions, key landscape issues are identified. Headings can be drawn from these as the framework for effects assessment. I have identified ten landscape issues. I agree that the overriding objectives are the protection of outstanding natural landscape from inappropriate development and use; the preservation of the natural character of water bodies and their margins; and the maintenance or enhancement of rural landscape amenity, in particular the open natural character of the ranges.

Landscape effects assessment

Landscape Character

27. There will be inconsistent and discordant elements with respect to landscape character which would be altered. This includes traffic and human activity, and effects of lighting and noise. The level of natural character will be reduced to low in the central part of the range, but maintained as high over the range as a whole. I agree

there will be adverse effects on visual coherence, intactness and legibility. There will also be loss of characteristic elements such as heritage features, mature kowhai trees and cushionfield. In my opinion, effects on character would be substantial (significant) rather than Moderate overall, albeit including some High effects. The fundamental absence of overt development is a critical change and it is a case of "the first cut is the deepest". The effect on the basin floor landscape character is lower in degree. Post-closure, whilst there will be restoration of the natural and pastoral range character to a large degree, there remains significant discordant landform elements constituting a permanent change to landscape character along with loss of characteristic elements.

Rural Landscape Amenity

28. In my opinion, the findings of largely Moderate degrees of adverse effects on visual amenity is an under-estimation and is inconsistent with the strong wording used to describe the visual effects in the BM Effects Report. Cumulatively my opinion is effects on visual amenity would be adverse to a High degree during mining. This includes the perspective of the Bendigo-Tarras basin landscape as a whole with disruption to the juxtaposition of open natural rangeland to highly modified basin floor, and the cumulative effect of detracting elements. Post-closure adverse visual amenity effects would remain to at least a Moderate-High degree due to the persistent discordancy of large man-made landforms.

29. There would be adverse effects on amenity aspects of dark sky, natural quiet and tranquillity. These would be significant from some locations.

30. Post-closure, in my opinion the lasting effect on visual amenity would be greater than Low-Moderate or Low. The actual degree of effect is highly dependent on the success of re-vegetation, which has a significant level of uncertainty. Aspects of natural dark, quiet and tranquillity would be restored to near-pre mine conditions.

Back-country Character

31. There would be permanent adverse effects on backcountry character and experience of the Site and surrounds. These would range from moderate to very high depending on location. The new Ardgour Rise Road would not be a like-for-like road in terms of the experience largely because it would not have the distinctive experience of the heritage landscape of the Rise and Shine valley.

Significant Amenity Landscape (Bendigo Terrace)

32. There would be a Moderate adverse effect on the values and character of the SAL during mining activity. There would be Very Low effect post-closure (the power line would remain).

Protection of ONL

33. I have assessed the effect of the proposals on each of the values identified for the ONL. I disagree with the BM assessment that effects on ONL would be adverse to a Moderate degree during mining. In my opinion the degree of adversity would range from Moderate to High with two Very High adverse effects (the substantial loss of historic heritage and removal of the Bendigo covenant which exposes values to loss and removes the public recreational value). During mining, the level of natural character would drop to be insufficient to support ONL status. A large proportion of the values would not be maintained.

34. There would be lasting effects post-closure. Natural character would increase to support ONL status depending on the success of re-vegetation but it would not be of pre-mine quality. There would be a persistent adverse effects of discordant man-made landforms and the permanent loss of characteristic and highly valued heritage and recreation elements.

Preservation of Natural Character of Stream and Wetlands and their Margins

35. The natural character of existing waterways and the wetlands on the Site and their margins would not be preserved. However this is comparatively a lesser adverse landscape effect. Whilst effects would inevitably be adverse and High during mining, post-remediation they would be Moderate to Low-Moderate in degree in my opinion. The ecological effects of loss of wetlands is addressed by the ecological experts, including Mr Head.

Consistency with Key Planning Provisions

36. In my opinion, the proposals would be inconsistent with key provisions of the Otago Regional Policy Statement and the Central Otago District plan that relate to landscape and natural character effects. In particular, they would not protect the Dunstan Mountains ONL from the adverse effects of inappropriate development and would not maintain the outstanding nature of the landscape during mining operations.

METHODOLOGICAL ISSUES

37. The assessment methodology applied by BM is generally in accordance with good practice with reference to TTaTM[2]. However, I do not consider that every step in a typical assessment methodology has been carried out, or to the level of proficiency expected for a project of this scale, complexity and magnitude of potential landscape effects. I have found omissions and inconsistencies in steps of the methodology

[2] Te Tangi a te Manu NZILA Guidelines

applied, which I will discuss in the relevant sections. This has affected the credibility of the conclusions on the scope and magnitude of adverse effect.

38. One aspect that needs further discussion as a methodological matter is off-setting/compensation for residual adverse landscape effects referred to in the Otago Regional Policy Statement 2019 (RPS), Policy **5.4.8** b). To my knowledge there is no landscape equivalent to ecological off-setting methodology[3]. In my opinion, material adverse landscape effects that are fixed geospatially cannot be compensated by improving landscape elsewhere. I am not aware of any methodology for compensation (or off-setting) for residual adverse landscape effects.

39. I confirm that I have applied the approach to landscape assessment set out in TTatM in preparing my evidence including matters covered in a peer review. I have structured my evidence and undertaken the necessary primary assessment using the methodology I normally apply in assessing the effects of a proposal.

LANDSCAPE CONTEXT

Identification of the relevant context(s)

40. Landscape contextual analysis is usually a "nested approach"[4]. Whilst I agree the more immediate context includes the central part of the west side of the Dunstan Mountains, the BM assessment has not first considered the Dunstan Mountains as one of the five parallel ranges which together with their intermontane basins and valleys collectively comprise the Central Otago Landscape. This is important because the character of each range is different and each contributes to the overall distinctive character and values of Central Otago. The contextual analysis should first focus on what is distinctive about the Dunstan Mountains in this context. I set out below some important contextual points:

    (a) The Dunstan Mountains is one of the larger ranges and one of the most frequently viewed ranges being on the main tourist route between Canterbury and the Wakatipu Basin on land and by air.
    (b) The range has a very low level of overt development (no ski areas, testing ground, dams and storage lakes).
    (c) It provides a somewhat more remote backcountry experience (access is imited, there are no huts). The remoteness factor, in my opinion, is becoming

[3] TTaTM does not include the concept of environmental compensation as a methodological step in project effects assessment
[4] TTaTM 5.16

more important and sought after as development on the valley and basin floors intensifies and urban areas are rapidly expanding.

Relevant closer context for assessment purposes

41. In terms of the "place" that most people would broadly experience the Site in is what I call the Bendigo-Tarras basin (see Fig. 1 GA A). This includes the Mata Au Clutha River valley between the Pisa and Grandview Range as far northwest as the Red Bridge for the purposes of this assessment. Whilst the project setting in Fig. 1 in the GS to the BM Effects Report shows this area, and notwithstanding almost all the visual assessment has been from viewpoints within this area, the BM assessment has largely focused on the ONL of the Dunstan Range. Whilst I agree effects on the ONL are the most important consideration, the range is experienced by most people in the context of the wider basin landscape. This has resulted in some aspects of effects assessment being overlooked which I will identify in later sections of my evidence.

Contextual landscape analysis

42. In my opinion, the contextual analysis and identification of values in the BM Effects Report does not demonstrate the scope and level of detail that is required for a proposal of this scale, complexity and potential magnitude of effect and, in my view, contains information gaps. The reference list in the BM ONL Report includes just five references and notably none that express local community values[5]. The analysis does not appear to grasp the significance of some of the values. This impedes the ability to determine the relative value and significance of site level features and attributes in context. This has resulted in an under-representation of site-level values and consequently under-assessment of the range and magnitude of adverse effects in my opinion.

43. Some of the information gaps and significant oversights are as follows:

    (a) The Dunstan Mountains is comprised of at least four distinct sub-units or landscape character areas[6]. Dividing the range into two sub-units north and south is a crude distinction and demonstrates that a finer-grained analysis has not been undertaken. The RAS valley can also be identified as a significant geomorphic feature in its own right, in my opinion, as an expression of the transition from Grade IV to Grade III Schist and of the Thomson Gorge Fault (TGF). It has a unique character that is readily recognisable. The BM

[5] such as the COD Plan and the Tarras Community Plan 2023, local tourist brochures, etc.

[6] Southern mountains, the distinctly planar Bendigo peneplain between Devils Creek and RAS valley with no landsliding processes, lumpy kanuka clad Bendigo reserves area, and the northern mountains with much landsliding. The RAS is a unique transition area between Bendigo peneplain and the northern mountains.

assessment has failed to recognise the uniqueness and significance of the RAS valley, as a distinctive part of the range and in its own right, and has thus overlooked effects on this feature. This is a significant omission in my opinion.

(b) The Land Type map reproduction in Map 2 to the BM ONL Report is mapped at the incorrect scale as it does not show the basin floor moraine landforms where the lower part of the Site is. I attach the correct scale of mapping in my GA B. Aside from an absence of articulation of values of these landforms and an assessment of effects on them, the inattention to detail demonstrates the superficiality of the contextual analysis with consequent under-assessment of effects.

(c) The failure to recognise the landsliding processes that are significant land-shaping processes on the range creating distinctive surficial topography is another example of a lack of finer-grained landscape analysis.

(d) Bendigo-Tarras Basin landscape character - the basin is comprised of moraine terraces and alluvial fill areas legibly expressing glacial/fluvial-glacial processes. These include the dramatic Bendigo and The Bend island-like terraces (ONF/SAL). The basin-floor landforms are predominantly highly modified for intensive pastoral farming under irrigation, vineyards and cherry orchards. The Basin hosts the three state highways and a number of local rural roads, the means by which most people experience the basin landscape. The Mata Au Clutha River is a major central element. The river and its margins are an important place from within which the basin landscape is experienced. A new recreational cycle trail is planned linking the Wanaka-Hawea basin with Cromwell[7]. Together with the soon-to-be-opened Kawarau Gorge Trail linking through to the Wakatipu Basin , this will create a major recreational and tourism resource in my opinion. I am aware that the Tarras community is exploring ways of creating recreational access along the Lindis River[8].

The juxtaposition of the highly modified basin floor with the relatively natural and more rugged mountain ranges is visually striking and fundamental to the character of the Basin. The degree and type of intensification can also be a direct and cumulatively detracting factor both in visual and more holistic landscape terms (intensively pivot-irrigated and fertilised pastoral land, brightly coloured netted vineyards and cherry orchards, and solar farms). This underscores the juxtaposition effect emphasizing the character and value of the rangeland as relatively undeveloped, open and natural landscape. The

[7] https://www.southernlakestrails.nz/wanaka-link

[8] Tarras Community Plan 2023

intensive development on the basin floors and apron of glacial terraces has also caused extensive loss of natural dryland habitat and rarity of a number of indigenous plant and animal species, such that remaining similar dryland habitat and species on adjoining rangelands are now of higher value.

(e) There are important omissions from the identification of relevant viewing locations and audiences. These are identified below:

(i) Kane Road, and Deep Creek/Philips Roads to the north have not been identified as relevant local roads.

(ii) The Mata Au Clutha River has not been identified as a viewing location. The river and its margins are visited for a variety of reasons – walking and enjoyment of the outdoors, fishing, kayaking and rafting, horse riding. It is the location of the future Wanaka link cycle trail.

(iii) Lindis River corridor - future recreational access along the Lindis River.

(iv) A number of public Conservation Areas (CAs), whilst mapped in Fig. 1 in the BM GS, are not identified by name. These areas are consequently omitted from the BM visibility and visual effects analysis. I identify these areas in Fig. 3A at GA H of my evidence. They are:

- Lochaber Scenic Reserve
- Alfern Creek CA
- Poison Creek CA
- Clutha Terraces/Long Gully Scientific Reserve
- Long Gully CA

(v) There are also a number of tracks and routes on public access easements to the CAs. These can be several kilometres long and have recreational and scenic value in themselves. Only one is identified in the BM Effects Report (Alfern Creek/trig 1444 track). Consequently, these have also been omitted from the BM visibility/visual effect analysis. The tracks/routes are:

- the Lindis Peak Track linking SH8 with Lindis Peak which terminates at Lindis Peak
- Cloudy Peak and Dry Creek tracks to the north of the Site accessing the Dry Creek and Neinei i Kura CAs;
- the Long Gully loop tracks linking to the Grandview Ridge Track (which continues north to Hawea and Timaru Creek) and accessing the Long Gully CA;
- the Sandy Point track linking SH8A and the Mata Au at Sandy Point;

- the Locharburn Track linking SH6 to Locharburn Scenic Reserve and Mt Pisa CA; and
- the Tinwald Burn Ridge Track linking SH6 to the Pisa CA and Mt Pisa itself.

(vi) The BM assessment has not considered the experience of the landscape people would have when flying into and out of Queenstown airport or on the many scenic flights available. Wānaka and Alexandra airports are popular bases for recreational flying. The mountain ranges of Central Otago are spectacular when viewed from the air (pers.obs). There are views directly down onto the Dunstan and Pisa ranges depending on the exact path of the commercial service. The Snow Farm and High Performance Centre (and the Cardrona ski area) can be highly visible in birds eye view, expressed as significant scarring of the summit landscapes.

In summary, the BM assessment has largely focused on highway and local road views and only a few of the CAs. As a consequence there is a wide range of public experiences which the BM assessment has not fully identified which, in my opinion, has resulted in an under-assessment of the range and magnitude of effects. A large proportion of recreational experiences in these places are of front to backcountry type where landscape coherence and legibility, high naturalness and a sense of remoteness and associated natural quiet, tranquillity and dark sky are valued attributes (relative to the busier, more settled and used basin floors). The rangelands around the Bendigo-Tarras basin provide these attributes.

(f) The BM assessment provides little information on cultural/associative values of the Dunstan Mountains to mana whenua. For example, it does not address to the significance of this route and the taonga within the Dunstan Mountains. It is acknowledged that it is for mana whenua to provide this information however the BM assessment states at that a Cultural Values statement has been made available to them[9]. I accept that this may be the extent of information available at the time, however if and when more information becomes available this should be included in the evaluation of landscape and assessment of effects.

(g) Notwithstanding there is detailed published information available about the historic heritage of the Bendigo area[10] and its significance as well as on-line

[9] p11 Part 3.4

[10] for example, Lloyd Carpenter's thesis "Rich in myth, gold and narrative: aspects of the Central Otago gold rush, 1862-2012"

descriptions[11], the heritage assessment[12] provides detailed information about historic heritage. Whilst Fig. 11 in the BM ONL Report shows a concentration of heritage sites associated with the TGF shear zone including a distinct cluster in the RAS valley, there is little information about historic heritage in the BM contextual analysis beyond a high level acknowledgement. I find this surprising as it is a key value in the associative dimension. It appears this absence of information reflects a lack of awareness of the heritage present in the landscape and its significance as the BM report is largely silent on the adverse effects on heritage and does not appear to have included them in the overall assessment of the scope and degree of adverse effect.

(h) Thomson Gorge Road is assessed in the Applicant's recreational assessment as being regionally significant[13]. This road also provides vehicle access to the conservation areas to either side of Thomsons Saddle. An Unformed Legal Road (ULR) and a public vehicle track provides access to the Bendigo CA to the southwest and there is a vehicle track along the summit of the Ardgour CA providing access into Neinei i Kura as well. There are impressive and highly appealing views from the Thomson Saddle area and Mt Moka. The rangelands are highly valued for their opportunities for solitude, self-reliance and resilience and for tranquillity, peace and quiet and the ability to see a night sky unaffected by artificial lighting. The value of such landscape experiences is summed up: "*Standing with horses and dogs high up at rocky bluffs as dawn breaks over the valley below us an experience one never forgets. The grandeur and solitude of the high country has a value money cannot buy*."[14] Thomsons Gorge Road and the summit CAs are a ready way to access these experiences.

(i) The Otago Conservation Management Strategy ("CMS") 2016 provides valuable insights into the natural and historic heritage and recreational values of Otago and more specifically the Central Otago Uplands Place in which the Site sits. It is important for understanding expectations for landscape management and for identifying potential values[15]. The overriding purpose of the CMS is to protect our natural and cultural heritage but also to increase people's access to it and understanding of it; to enrich visitor experiences; and to increase recreational use and enjoyment of public conservation areas.

[11] for example, https://www.heritage.org.nz/list-details/9097/Bendigo%20Quartz%20Reefs%20Historic%20Area and https://www.doc.govt.nz/globalassets/documents/parks-and-recreation/places-to-visit/otago/bendigo-area-brochure.pdf

[12] Report B.34 Part 5

[13] p5 B.39-Rob-Greenaway-and-Associates-Recreation-Assessment-Greenway-2025

[14] Ibid.

[15] TTaTM part 5.08

Notably, the Dunstan Mountains are to be retained as backcountry where natural quiet prevails and a largely undeveloped character is retained. Parts of the CMS I consider relevant to understanding the landscape context are in Appendix 2.

(j) The Tarras Community Plan 2023 is an important source of information about the landscape values the Bendigo-Tarras basin holds for the local community.

(k) The Shepherds Creek ULR (aka Matakanui-Bendigo, a historic road) is significant in my opinion in that, combined with Thomson Gorge Road, it potentially provides a unique, readily accessible opportunity for a loop trail, the preferred kind of trail. It would be within a landscape with significant historic heritage, geomorphic and ecological values and it would build on the "journeying" tradition described in the CMS, an experience not available elsewhere in the range.

(l) The track to Mt Moka (also approximating a ULR) and Mt Moka summit itself provides a memorable landscape experience with impressive views across the Bendigo-Tarras basin. From here, one can access much of the southern Dunstan Mountains summit area.

Dunstan Mountains ONL – Extent and values

44. I agree it is not necessary to revisit the delineation of the ONL for the purposes of this assessement. However I note the line anomalously excludes the bottom gorge end of Shepherds Creek. The line should follow the true foot of the range so that this part of the Site is appropriately included within the ONL.

45. A landscape value is a reason - or the reasons - a landscape is valued. Whilst some values are not individually outstanding or special, together they contribute significantly to the Dunstan Mountains ONL. It is critical for robust ONL effects analysis that the landscape values in all three dimensions are comprehensively and, where possible, explicitly identified. I agree with the values identified in the BM ONL Report.

46. I consider the following to be additional biophysical values:

(a) land-sliding processes are a major land-shaping process alongside tectonic and glacial processes creating the distinctive and highly legible hummocky surficial topography;

(b) the planar Bendigo schist bedrock surface south of the Rise and Shine valley with distinctive slotted tuning-fork drainage, rocky gorges and unusual lumpy and arcuate weathered forms at its toe at Rocky Point and Mt Koinga is highly legible and expressive of tectonic and erosion/weathering processes;

(c) the Thomson Gorge Fault expressed by the Rise and Shine Valley is particularly legible, unusual and striking in form, as well as being one of the locations of gold resource, mining heritage elements, travel routes and recreational values all associated with the qualities of the fault and shear zone;

(d) the numerous rock tors, outcrops and bluffs;

(e) mid and low altitude vegetation communities are also valuable remnants of historic vegetation – kowhai, grey shrubland, cushionfields, short tussock grassland. Relict mature kowhai trees thought to reflect pre-human tree cover (some trees are very old); the other communities would have existed historically as well as niche communities related to less favourable conditions and/or disturbance;

(f) the diversity and representativeness of indigenous vegetation remaining (and regenerating) despite extensive modification including a large percentage of Threatened and At Risk flora and fauna species; vegetation and terrain provide extensive diverse habitat for native fauna (lizards, insects, birds) including as yet unnamed species; significant dryland vegetation; wetlands, seepages and springs on valley floors and sides are generically valuable elements.

47. I consider the following to be additional perceptual values:

(a) Battery Hill is a prominent and distinctive skyline peak and is associated with the six stamper batteries adding significance;

(b) the high level of legibility of landform/land forming process, including the Bendigo peneplain a planar schist bedrock surface with distinctive slotted tuning-fork drainage gorges; rock tors and bluffs and rocky gorges; the unusual rugged, lumpy and arcuate weathered forms in and around Bendigo Scenic Reserve at Rocky Point and Mt Koinga; and the visually striking and intriguing Rise and Shine valley. These are visually dramatic and highly memorable landforms;

(c) the visual intricacy of mosaic vegetation patterns and the colours and textures in vegetation (e.g. rich golden colours in taramea fields offset from dark grey matagouri, fine textured slivery patches of *Shawia odorata*);

(d) the old mature kowhai trees are a particularly notable visual feature;

(e) the “scabweed” cushionfields are visually striking and memorable for their diminutive stature, starkness and unusual plant forms, textures and colours. These are a defining characteristic of the semi-arid range;

(f) generically large-scale, highly visible, rugged mountain landform expressing a High degree of natural character and High degree of visual coherence are valued;

(g) a high degree of openness imparting sense of remoteness, solitude and backcountry character;

(h) the juxtaposition of more open, natural and rugged dry-looking mountain ranges with the highly modified basin floor is a striking visual effect highly characteristic of Central Otago;

(i) the high levels of natural rural dark, quiet, and tranquillity are highly valued and sought after. "*Silence is valued by many, along with big skies, landscapes, vistas, night skies, wide open spaces and the serenity of the rural space*.".[16]

48. I consider the following to be additional associative values:

(a) the peaks and other landscape features named by Maori, as way markers and express whakapapa (such as Haehaeata/Leaning Rock);

(b) the Bendigo heritage landscape is highly valued for its interpretative, educational, exploration and fossicking opportunities and supports heritage tourism. It is of national and regional significance. It includes the Rise and Shine valley workings. Thomson Saddle was used by William Rees when he took the first mob of sheep from Coal Creek in the Shag valley in northeast Otago to his vast run in the Wakatipu Basin in 1860;

(c) the public conservation and reserve areas (in addition to the Lauder Basin) express a high perceived shared value in natural heritage, cultural heritage, recreation opportunities and landscape appreciation. The public access easements providing access to these areas are also valued for their recreational and landscape experiences;

(d) the expansive Bendigo conservation covenant expresses a perceived high value in natural and cultural heritage, recreation opportunities and landscape appreciation particularly for heritage exploration in the RAS valley and around Battery Hill;

(e) Thomsons Gorge Road is the only formed public road crossing over the range and is one of the renowned scenic cross-mountain range drives in Central Otago; it is also a popular route for cycle touring and horse trekking;

[16] Tarras Community Plan 2023

(f) the Shepherds Creek ULR and the Mt Moka ULR are important ULRs on the range. The former is linked to Thomsons Gorge Road at the bottom and the top of the range creating a desirable and preferred potential loop recreation route, and it provides additional access to historic cultural heritage elements including the road itself. The Mt Moka ULR provides a valuable public link including by vehicle from Thomsons Gorge Road to the Bendigo CA. These ULRs provide valuable enduring access and enable more people to experience the backcountry landscape and historic heritage;

(g) the mountain ranges framing the valley of the Mata Au Clutha River will be important to the high-value cycle trail experience planned along the river. They will also be important as setting for a potential recreational trail along the Lindis River;

(h) The rangeland landscape and its heritage cultural and natural is highly valued by the local Tarras community and creates for them a strong sense of special place. The Tarras Community Plan says[17]:

"Tarras is a strong, thriving community that is a great place to live, work and visit, set in an outstanding environment."

"Tarras' distinctive landscape, heritage aspects and access to recreational opportunities in and around the area makes it a special place. The vast open space includes a superb vista which takes in the Dunstan Range to the east and the Pisa Range to the west."

THE APPLICATION SITE – DESCRIPTION AND EVALUATION

49. Similarly to the description and analysis of the wider landscape context, in my opinion the BM site-level description and evaluation is not sufficiently thorough in scope or detail commensurate with a project of this scale, complexity and potential magnitude of effect, particularly given the significance of the some of the Site's values, some of which are of national significance. It follows that without a robust site-level analysis, the landscape values of the Site and its significance to the wider ONL and Bendigo-Tarras basin landscape cannot be fully recognised and articulated. This in turn results in under-assessment of the degree of adverse effect.

50. Ordinarily, I would expect:

[17] Tarras Community Plan 2023

(a) information provided in the other technical reports, particularly on ecology and heritage, to be synthesised in order to inform the Site assessment;

(b) the Site's nationally significant ecological and heritage features to be explicitly recognised;

(c) an overall Existing Site Plan showing all existing features and elements. This would have been a helpful complement to the Landscape Mitigation and Landscape Closure Plans.

Site values identification

51. An explicit identification of the Site's landscape values and how they contribute to contextual landscape values usually concludes description (relating to the Bendigo-Tarras basin generally and specifically Dunstan Mountains ONL and Bendigo Terrace SAL/highly valued landscape). This is a further critical step in assessing effects on landscape values as acknowledged in the BM Effects Report[18]. Site-level values are identified[19] but only in relation to the Dunstan Mountains ONL. The proposals would affect other parts of the Bendigo-Tarras basin landscape, and the Basin as a whole "place". Identification of Site values relies on a thorough understanding of the Site in its three dimensions[20] and there are information gaps.

The Site – Information gaps

52. In the following section, I identify and provide information on aspects of the Site that I consider important and relevant that are not recognised or described in sufficient detail in the BM Effects Report:

(a) the RAS valley is a particularly striking and memorable area that I had expected to be explicitly recognised and described. It is a highly distinctive and intriguing landform of overlapping planar true-left side-slopes with no landsliding processes and a distinctive pleated surface drainage pattern. The overlapping bedrock layers have caused a distinctive kinking of RAS Creek causing it to flow into Clearwater Creek rather than Shepherds Creek. This striking valley also expresses the TGF. This valley/fault expression feature is, in my opinion, one of the distinctive features of the Dunstan Mountains (combined with the gold working heritage intimately associated with it). Photos of this area are in my Attachments at GA D and E;

[18] Part 6.4

[19] See part 6.5.1.2

[20] Biophysical, perceptual, cultural

(b) there are numerous rock outcrops and bluffs within the Site including the narrow gorge-like sections of Shepherd's Creek at the mouth and in other places where the valley floor narrows; and also at the bends in the RAS creek valleys which are relatively rugged and rocky in character. Interesting features encountered are large sarsen stones (refer photo on Photopage at GA G);

(c) along the toe of the range are remnant landforms of older glacial and fluvio-glacial processes, and recent alluvial processes (refer GA B Land Type O11). Patches of moraine (till) are smeared across the toe slopes either side of Shepherds Creek mouth forming shallowly dissected and relatively smooth rolling terraces and spurs. These are roughly expressed by cultivated land. These landforms are part of the broad discontinuous band of glacial deposits sweeping in a broad arc around the toe of the range from Cluden Hill/The Point to Rocky Point and merging with the large remnant surfaces of weathered till of the island-like Terraces. They are part of the legible story of glacial advances and retreats within the Cromwell-Tarras basin;

(d) historical aerial photography and observation of vegetation on the site shows that grey shrubland is naturally regenerating (refer 1958 and 2024 aerial comparison photos in GA F1 and F2). Barring a major disturbance, it is likely grey shrubland would continue to regenerate and form more extensive and denser cover. With pest control kowhai seedlings could survive. This aspect is relevant to matters relating to the proposed off-setting;

(e) on my site visits I observed the very open, dry Raoulia cushionfields with distinctive *Pimelea aridula* shrubs and patches of robust silver tussocks, associated with the rare spring annual habitat. I understand there are relict kowhai trees of substantial girth, indicating considerable age (M Sole pers. comm.). These are likely to be the oldest vegetation on the Site[21]. Large and intact carex wetlands were observed on the floor of RAS creek in the vicinity of Perriams Pond although it is uncertain to what extent they have re-occupied alluvium turned over for gold;

(f) notably absent from the BM site description is information about the threatened species on the Site, of which there is detailed information available in the RM Ecology Report for example: "*Native species diversity is high (176 species across the ESA), and includes an exceptionally large number of Nationally or Regionally At Risk or Threatened plant species (at least 58 species across the ESA, and at least 48 species within the DDF).*"[22] I note however there

[21] para.3.3 p56 RMA Ecology Vegetation Values Assessment

[22] p4 Executive Summary ibid.

is considerable uncertainty around the extent and significance of these populations, in relation to the wider range landscape and ecological district[23]. This does not appear to have been acknowledged in the BM assessment;

(g) there are significant wildlife values on the Site as evidenced in the Application's technical reports on lizards, brids and insects;

(h) there is a detailed and intriguing narrative in published material and in the Application's technical heritage report of landscape change on and around the Site through the early pastoral and gold mining era and associated road building and tracking: how the different and seemingly disparate elements or groups of elements fit together within the Site and with the surrounding landscape to tell the story of human endeavour. I had expected to see a detailed account of the heritage elements of the Site and surrounds and how together they formed a heritage landscape. To assist my own understanding; I have annotated B.34 Fig. 6.1 naming the heritage elements in the Bendigo to Thomson Saddle area which I include in my GA C. I note some of the elements recently identifed on the Site have not been recorded before (pers. comm. Matthew Sole[24]) indicating there is likely more to be found, interpreted and recorded.

(i) as described previously the ULR of Shepherds Creek is a notable feature within the Site. Notwithstanding it is a heritage element; it has potential recreational use as previously described. The ULR and public track access to Mt Moka is also within the Site relevant to associative values. The effect of the proposed partial closure of these roads is a landscape effect that should have been assessed;

(j) the Bendigo covenant is a significant aspect of the Site. I expected an explicit account of the values it is to protect (landscape, ecological, heritage and recreation). The proposed uplift of the covenant is a landscape effect of the proposal that should have been assessed.

53. I have reviewed the statements of Nick Head[25], E3 Scientific[26] and Max Crowe[27] and I am aware of areas of disagreement over survey and assessment methods, and conclusions around species presence, population sizes and spatial distribution and the magnitude of ecological values present. Given both uncertainty of impact, and

[23] refer section 3.4.2 ibid.

[24] Kopuwai Consulting Archeaologist

[25] Statement of Evidence of Nick Head for EDS April 2026

[26] Matakanui Gold Terrestrial Ecology- Technical Review Terrestrial Ecology Final Response e3 Scientific 18/03/2026, for ORC

[27] Statement of Advice for the DOC – Max Crowe 10 March 2026

presence of regionally or nationally significant values, assessment of effects on the biotic dimension of landscape needs to be cognisant of all the information available and err on the side of caution.

Visual significance of the site

54. In my opinion there are important views that have been omitted from the otherwise well-documented Visual Appraisal of the Site set out in Part 3.7 of the BM Effects Report.

55. I have identified and described what I consider to be the relevant public viewing locations for this proposal in a schedule contained in Appendix 3. Highlighted locations are those identified in the BM assessment. I have identified these earlier in my evidence at 43 e). Notable omissions from the BM visual analysis are various public easement tracks, views from the Lochaber Scenic Reserve, views from the Mata Au Clutha River and its margins (and future cycle trails), the Long Gully Terraces Scientific Reserve, and views from the public roads and the RAS covenant area within the Site. I identify all places on Fig. 3A in my GA H.

56. In my opinion, there is a wider range of views and experiences of the Site than described in the BM assessment. There are almost no parts of the Site that are not visible in public views. The viewing audience is wide-ranging including residents, working people, visitors, tourists, and people undertaking recreational activities mostly front and backcountry. As previously mentioned, a new cycle trail is planned along the Mata Au Clutha River. This is likely to carry a large number of cycling tourists and visitors, as well as locals.

57. Excepting internal views, the most widely visible parts of the Site are the north to northwest sides of Battery Hill and the upper parts of the central ridge to either side of the Hill, and the western ridges formed by the planar rock layers. The views on slightly more westerly bearings look straight into Shepherds Creek valley. In more northerly locations views are more “side on” to the Site looking at the upper north side of the Battery Hill ridge. The true-right Shepherds Creek ridge prevents views of the lower slope and valley and the RAS valley is also partially hidden from view by the central ridge. The front faces either side of Shepherds Creek mouth and the Ardgour terraces area are also widely visible, either at some distance (due to the intervening Bendigo Terraces) or at very close range from Thomson Gorge Road, and Matilda Rise.

58. Most views of the Site are open views of the wide expanse of the western side of the Dunstan Mountains including the Bendigo Reserves area with its distinctive and eye-catching dark kanuka-clad lumpy rocky terrain, all ONL. In all views the Site is seen as an integral part of the wider natural and open range landscape occupying a central position in the lower saddle area, from basin floor to summit. This is also an area of

notable change in landscape character (due to landform). The Bendigo Terraces ONF/SAL island landforms are in the foreground of many views of the Site. In more westerly views, Battery Hill is a prominent conical skyline element. The landforms on the southwestern edge can be visually striking especially in clear low-angle light when light and shadow enhances their form (refer photo in GA E).

59. From Thomsons Gorge Road, within the RAS Third Schedule covenant area and from the Shepherds Creek ULR the Site is viewed from within in intimate detail. The Site provides the immediate setting, including the heritage landscape specifically recognised in the RAS Third schedule covenant. Similarly views from the ULR to Mt Moka and from the Ardgour CA are at close range. The Site is seen as an integral part of the Dunstan Mountains from these perspectives. From the summit area on Thomson Gorge Road, there is a highly scenic view down the ridges and valleys of the Site to the Tarras basin and distant layers of mountain ranges as shown in the photo below:

(Photo: A Steven August 2025)

SITE LANDSCAPE VALUES

60. I broadly agree with the landscape values identified for the Site set out at part 6.5.1.2 of the BM Effects Report. However, some values appear to have been overlooked. Without acknowledging and assessing effects on these values, the assessment is incomplete and results in an under-valuing of the Site and an under-assessment of scope and magnitude of effect.

61. In compiling an inventory of Site values, I have in large part relied on the expert technical reports and evidence statements, particularly heritage, ecology, vegetation, and fauna. I rely on the ecological evidence of Nick Head.

62. The Site's particular landscape values that I consider to be important (but are not identified in the BM Effects Report) include (but are not limited) to the following:

Biophysical

(a) It is an integral and central part of the ONL of the Dunstan Mountains; it is not distinguished in any way.

(b) The visually striking and distinctive landform feature of RAS creek valley and the TGF expression. This structural composition of forms and geomorphic expression is unique within the Dunstan Range.

(c) Numerous rock outcrops and tors, rocky gorge walls and sarsen stones are interesting and often visually dramatic features;

(d) The glacial till landforms of the Ardgour terrace within the Site, whilst subtle, are part of the story of glacial advance and retreat. In clear, low light conditions these have a highly legible memorable visual quality (see photo in GA G), in part due to the induced homogenous low, fine-textured grassland cover.

(e) The Site's vegetation is dominated structurally by a diversity of indigenous vegetation communities which are typical and representative of those more broadly present along the range. Native grey shrubland including distinctive large patches of *Olearia (Shawia) odorata* is regenerating well and forms large dense patches in places. Of particular note are relict kowhai trees some of considerable age: these point to pre-human tree vegetation type. Numerous shrubs of *Pimelea aridula* are present, endemic and characteristic of dry rocky Central Otago. There are specialised wetland and rock tor species.

(f) The Site "*contains very high ecological value and ecologically significant vegetation communities"*[28]*.* There is an exceptionally high number of threatened and at-risk plant species present with the specialised dryland cushionfield/spring annual communities standing out. "*Species of particular note include large populations of Threatened – Nationally Vulnerable Myosotis brevis, and a nationally important population of the Threatened – Nationally Critical Ceratocephala pungens (the largest known population)."*[29] and "*including the only known populations of Ceratocephala pungens within the Bendigo Conservation Covenant, and the largest and best known populations of this species nationally*"[30]. "*These are likely to be one of the most – if not the most – important strongholds (for Ceratocephala) and is of critical importance to the long term persistence of the species in Central Otago*".[31]

(g) There are numerous wetlands along the valley floor of the creeks and in seepages and springs on the hillsides. Wetlands and riparian areas generally are highly valued. "*All wetland types (seepages, fens and swamps/marshes), in DDF, DDZ, and the SLSW, satisfy the significance criterion of the operative RPS*

[28] P4 Executive Summary B.13A RMA Ecoloogy Vegetation Values Assessment

[29] Para 2 Appendix-G-Expert-Statement-Vegetation-and-Flora-M-Crowe March 2026

[30] Para 5 ibid.

[31] p69 part 3.4.1 B.13 A

and proposed RPS"[32]. The swamps, the main type of wetland, are assessed as being of high value notably along the floor of RAS Creek. E3 also considers that seepages are of high value.

(h) Significant Habitat and Wildlife - the Site is of significant wildlife habitat value (lizards, birds, insects)

Perceptual

(i) The character of the Site is indistinguishable from the rest of the range in terms of the high to very high values of openness, naturalness/natural character, cohesiveness or visual coherence, and legibility of the range. Landform integrity, visual coherence and natural character within the Site has been compromised somewhat over recent years by the upgrading and new tracking and earthworks associated with the exploratory activity and the upgrade of Thomson Gorge Road. It is understood there are conditions requiring restoration to prior condition and new tracking can be regarded as temporary.

(j) The Site's location in the middle part of the range, and at the low saddle part of the Range brings it to centre stage in a number of views including from major highways and a number of public conservation areas and tracks. In certain light conditions and/or in certain viewshafts, Battery Hill is a prominent peak highlighted by shadow or on the skyline. The rock slab western edge of the Site is visually striking and intriguing especially when highlighted in clear conditions by light and shadow (refer photo in GA E). The Site is closely associated visually with the distinctive rocky kanuka-clad Bendigo Reserves area ONL and the impressive and memorable forms of the Bendigo and The Bend Terraces, an ONF and SAL. There are numerous features and areas of landscape within the Site of high aesthetic value such as rocky gorges, mature kowhai and shrublands including fine soft silvery Olearia shrublands, sweeps of silver tussock, glowing orange-gold spaniard fields, intact wetlands, rock outcrops and striking landforms, together with wildlife observed and transient weather conditions such as strong light and shadow, frost and snow. The views over the Site out across the Bendigo-Tarras basin to layers of mountain ranges are particularly scenic and appealing.

(k) The Site is a large part of the range backdrop familiar to, and visually referenced in, everyday life by local communities. As part of the range enclosing the Bendigo-Tarras basin, the Site is viewed by large numbers of people on a regular often daily basis travelling the highways and local roads,

[32] p6 B.12-RMA-Ecology-Wetland-Values-Assessment-RMA-Ecology-2025a

and enjoying recreational activity in the many recreational places within the area.

(l) The Site contributes to the highly valued qualities of natural dark, natural quiet and tranquillity although the latter has been somewhat degraded over recent years by the exploratory activity (which nevertheless is temporary). The Site is an important part of the backcountry experience, sought and valued for its solitude and self-reliance as well..

(m) The Site is a key part of the experience of Thomson Gorge Road, a long-standing popular scenic driving route of some infamy (for its many gates) and cycle touring route. Its passage through a valley of historic mining and pastoral heritage and following ancient ara tawhito adds rich layers to the experience. It is one of the "journeying" values recognised in the Otago CMS.

(n) The ULR of Shepherds Creek valley as previously noted forms a potentially valuable recreation loop linked to Thomson Gorge road at top and bottom. I note this has not been addressed in the B.39 Recreation Report.

(o) The Site holds many features and places of 19th and 20th century mining and pastoral heritage of high value[33]. The Site's heritage features are an integral part of the nationally significant heritage landscape of Bendigo and RAS valley. Features are of human scale and an artisan nature. Whilst individually valued, "*the high value and importance of the sites lie in the close association they have with other sites within the landscape, and the intactness of the landscape as a whole*."[34] It is the interaction of elements over time and space, weaving of stories of human endeavour and earlier ways of life and using the land that are the real and most important values, as heritage landscape. ….."*The intensive landscaping, machinery, and human effort involved in the alluvial mining at the Rise and Shine and Come-in-Time site complexes in particular have created a landscape of extraordinary historic value that evidences the full span of gold mining history in Bendigo."*[35] As yet unrecognised and undocumented heritage features likely to be present are potential values.

(p) The Bendigo covenant and specifically the RAS Third Schedule covenant area are a formal recognition of the significant landscape values of that part of the Site within Bendigo Station specifically ecological and heritage values, and the

[33] Para 45 Appendix-H-Expert-Statement-Heritage-DOC-Dr-M-Schmidt

[34] Para 51 FTAA2507-1089-HNZPT-s51-Report-v2

[35] Para 26. Ibid.

importance of promoting public access to and interpretation of historic heritage

(q) The lowest part of the Site on the Ardgour terraces has (or had until recently) valued attributes of rural openness and spaciousness, high legibility of landforms and high levels of visual cohesion inherent in a relatively simple dryland pastoral character. The softer landforms have high visual appeal in low clear light conditions (refer photo in GA G). This character has disappeared from many parts of the Basin floor under vineyard, cherry orchard and pivot irrigated intensive agriculture. These attributes have been compromised on the Site by the current activity although I understand consent conditions require the land to be returned to its prior state when the activity ceases. The significant historic sheepyard and shepherds hut are located at the transition from basin/valley to range. I also understand there are historic water races across this part of the Site.

PROPOSED REHABILITATION AND OFF-SETTING/COMPENSATION MEASURES

63. From my review of the statements of evidence of Mr Head, Mr Crowe and E3 I understand there are concerns around the proposed remedial and off-setting measures to restore and enhance indigenous vegetation cover, and considerable uncertainty as to whether what is proposed can be achieved in a timely manner, or at all. As the mitigation of adverse landscape effects and off-setting of residual effects is heavily reliant on the re-vegetation, this raises uncertainty and doubts around the ability to mitigate adverse landscape effects in an appropriate and effective manner that is enduring. Statements in the BM Effects Report like *"Rehabilitation will enable nearby native herb fields to be re-established at the completion of mining activities"*[36]*and "extensive rehabilitation of native vegetation will occur within the catchments of Shepherds Creek and Rise and Shine Creek to enhance associated biophysical landscape values."*[37] should be treated with considerable caution. A number of these issues may be able to be addressed through carefully worded conditions but this remains to be confirmed.

64. The concerns I have identified from reviewing the statements of evidence are as follows:

(a) *"it cannot replicate the ecological integrity of natural ecosystems, including soil–plant relationships, complex species assemblages and interactions";*[38]

[36] p25 BM Effects Report

[37] p3 BM Effects Report

[38] Para 36 Statement of Evidence of N Head 10 April 2026

(b) existing values are understated so proposed replacement values may not able to be demonstrated as equivocal or better;

(c) some species in the DDF and nearby areas may have been overlooked or simply not found and would not be factored into representing a loss of biodiversity;

(d) the significance of species and populations present may be under-recognised thus their loss is undervalued (and there is uncertainty around surveying methods/results and there are information gaps);

(e) methods for re-establishing some vegetation communities are untested, experimental and would take years to prove. There is a level of risk in terms of likely success. Outcomes are unknown;

(f) there is a reliance on natural regeneration which is unpredictable in terms of outcomes in a timely manner;

(g) a lack of clarity around target cover in different areas in specified time frames. Target survival rates and percentage of cover need to be concise, measurable and time-bound and they need to be at reasonable levels;

(h) potential for weed invasion where target cover is low (Russell lupins are not included as a target species but they are present in vast numbers in the Lindis River catchment and could easily be introduced in imported road metal or machinery or deliberately spread by a member of the public). Hares are not a target species;

(i) there is little detail on planting methods (e.g. are plant protectors to be used? Will plants be mulched?);

(j) the numbers and densities of plants proposed are often low, much lower than normal revegetation planting densities. For example, at a normal planting density of 1.2-1.5m spacings the rate would be between 60-80 plants per 100m2 or 6000-8000 per ha. The proposed rates are variable but one example is 1500 plants per ha (refer Table 15 in the Alliance Report). For some species only 10 individual plants are proposed to be planted;

(k) if natural regeneration is relied upon how would it be possible to determine if the same number of plants or better is the outcome? And in what time frame?;

(l) a number of the species have not been propagated commercially or are tricky to propagate, certainly in large numbers (such as *Pimelea aridula* and *Carmichaelia crassicaule* pers. com Haehaeta Native Plant Nursery);

(m) the sanctuaries are not in an ideal location and there are no arrangements with the DOC to re-introduce the likes of Otago and Grand Skinks. That relief cannot be relied upon;

(n) the number and complexity of the large number of management plans, which the consenting authority has to be able to work with;

(o) the long time frame;

(p) the heavy and continuous commitment over time which must be adequately resourced;

(q) alternative measures in the event of failure to meet targets and articulated outcomes;

(r) legal and enduring protection to ensure the restored values persist indefinitely and provision for management in perpetuity (benefits may cease if intervention cease).

PROJECT VISIBILITY AND VISUAL EFFECTS

65. The visual dimension is the predominant way people would experience the effects of the proposed BOGMP. They are the main component of rural landscape amenity.

66. Whilst casual viewers such as visitors to the area may respond to what they see of the BOGP largely on a visual basis (matters of visual coherence, naturalness, etc) shaped by their expectations, other viewers who have a deeper connection to or engagement with the landscape (e.g., residents, people with specific interests, recreation users) would respond superficially to visual cues but their full response will be shaped by their knowledge of the landscape, the values it holds for them and their expectations. The BM assessment has focused on the superficial visual response. Whilst this is an important aspect, failure to acknowledge deeper and more complex responses to what might appear as relatively small physical changes to the landscape of the range – and the wider Bendigo-Tarras basin - when viewed at distance[39] has resulted in an under-assessment of landscape effects in my opinion.

67. In assessing visibility and visual effect, the time span needs careful consideration. The operational and early closure phases of the project would span some 15-18 years. It may be decades before the proposed rehabilitation is sufficiently effective in "absorbing" certain elements into the landscape and in replacing the vegetation removed (bearing in mind the significant uncertainty of restoration success). The open pit elements would never be absorbed. The way people would view the Site – viewer

[39] Most views are at distances of 10-20km

locations, the experiences, the reasons for exploring the landscape – may well change over that time. Over such a long time frame it must also be acknowledged that places or areas that are currently not or infrequently visited may be visited more frequently in the future especially as the resident population expands. An example is the new cycle trail planned for the Mata Au Clutha river corridor.

68. Visibility and visual effect analysis provides a robust foundation for assessing effects on landscape particularly visual amenity. Visibility is a simple objective description of what would be seen and by whom and from where. Visual effect in the methodology I apply is an objective measure of the degree of visual change: whether elements individually or as a whole would be seen as an anticipated visually characteristic element (or perhaps new but complementary) or conversely whether they would be perceived as discordant and unexpected. A high visual effect means they are discordant, a low visual effect means they fit well within the range of anticipated visual outcomes in that landscape. My "visual effect" term is similar to "visual change" mentioned at 6.6 of the BM Effects Report[40] from which they assess effects on landscape/visual amenity. I define the visibility and visual effect terms I use in Appendix 4.

69. It is common ground (embedded in TTatM) that change in a view and a perceived visual change to a landscape does not necessarily mean the effect is perceived as adverse; and that the scale of a visual change does not necessarily equate to the magnitude of its visual effect, i.e. a small visual change because of its nature and discordancy may have a disproportionately large visual effect (such as a building); and conversely an element that is visible and large in area may have a small visual effect (e.g., a change in vegetation).

Visibility of the Project

Viewing Locations

70. My review of the completeness of the BM visual analysis necessarily required completing my own analysis of the likely visibility of the proposed (and actual) project components from the relevant public viewing locations. I have not undertaken any analysis of effect on private views as it is not within my scope of work (and not possible within the limited time frame). I have personally visited most of these places but have also relied on the visual simulations and other graphic material in the BM assessment,

[40] Part 6.6 *Visual effects are a component of overall amenity and therefore contribute to peoples' appreciation of the pleasantness and aesthetic coherence of a place alongside its cultural and recreational attributes. In short, this aspect of the assessment considers the effects of visual change that the proposed mine would bring to the outlook and views of people who make up the identified viewing audience.*

and Google Earth and Google Earth street view where it has not been possible due to time constraints to visit certain locations.

71. The BM visibility analysis has covered the full range of relevant viewpoints from north to west and from the east, at a reasonably high level focusing on highways and selected local roads at basin floor level and some public conservation areas (only one CA covered to the west/northwest). However a number of conservation areas, other public places and public access tracks have not been included. I have previously identifed the viewing locations I consider relevant to this proposal at part 43e) of my evidence and In Appendix 3,and refer Fig. 3A in my GA H. In the list below locations shaded in grey have not been considered in the BM project visibility and visual effect analysis or at least not specifically. I also identify the viewing locations not covered in my Fig. 3B in GA H.

Highways

SH8A - Luggate-Tarras Road/Bells Lane between Tarras turnoff at SH8 and to near Mackay Road/Red Bridge area

SH6 - between Queensberry locality and Locharburn/Mt Pisa Station locality

SH8 - between Rocky Point and Cluden Hill (large sections screened by the Bendigo/The Bend terraces)

Local rural roads:

Kane Road (south end); Jolly Road/Deep Creek Road/Phillips Road north to northwest of Tarras; Ardgour Road; Thomson Gorge Road outside the Site and within the Site; Matilda Rise; Maori Point Road (northwest end); roads within the Queensberry hills area; Mt Pisa Road (within a subdivision)

Paper Roads:

Along lower Albert Burn, Kidd Creek and Locharburn between SH6 and the Clutha River/Lake Dunstan.

Shepherds Creek ULR (the old Matakanui-Bendigo Road). ULR between Thomson Saddle and Mt Moka.

Public Conservation Areas:

Mt Pisa Conservation Area; Locharburn Scenic Reserve; Alfern Creek Conservation Area; Poison Creek Conservation Area; lower Lindis River; South Lindis and Clutha

Islands conservation areas at the head of Lake Dunstan; Lindis River Conservation Area; Long Gully Conservation Area;; Clutha Mata Au Terraces Scientific Reserve; Sandy Point Conservation Area;

CAs adjacent or near to the Site: Neinei a Kura CA; Ardgour CA; Bendigo CA; Bendigo Historic and Scenic Reserves

The marginal strips and Crown land of the Clutha Mata Au throughout its length.

Public Access Easements:

Long Gully/Grandview Ridge Track; Lindis Peak; Tinwald Burn Ridge Track; Locharburn track;

The Rise and Shine Creek Bendigo Covenant Area; also wander at will area within the RAS covenant area.

72. The consequence of omitting important viewing audiences is an underestimation of the visual effect. Visibility analysis as a basis for assessment of effects should ensure all relevant viewing locations are covered particularly because the viewing audience changes (e.g., a highway user view vs an adjacent CA recreational view).

73. It is assumed the Shepherds Creek ULR and the middle sections of Thomsons Gorge Road would be closed at least in a practical sense (and acknowledging that some sections would be destroyed by the mining activity in any case). It is acknowledged Thomson Gorge Road would be reinstated in the middle sections through the Site as a recreational foot track. The visibility and visual effect from this track (as a ULR technically) should be addressed for completeness. It is assumed that the Shepherds ULR would not be reinstated as a physical track. However the loss of these landscape experiences is an effect that should be part of the assessment.

Project Visibility and Visual Effect Analysis

74. I have reviewed the visibility and visual effect descriptions and degree of visual effect rating in BM Effects Report[41] in addition to considering likely visibility and visual effect from other viewing locations not covered in the BM visual analysis. My review firstly considers the operational and early closure and rehabilitation phases (a period of some 15-17 years). The visual effect of the longer-term wider scale ecological restoration within the Site and landscape management of the wider Ardgour station area is discussed in a subsequent section.

[41] part 6.6. and in Table 31

75. It is noted that in the BM analysis visibility is for the most part not described in terms of degree of visibility (full/partial, prominent, dominant, etc) and that visual effect is assessed and rated as a visual amenity effect rather than a more objective measure of change to the visual scene in the context of ambient or prevailing landscape character. This is the approach I normally take (refer the definitions in my Appendix 3). However generally I found the description of visibility in the BM assessment to be accurate.

Summary of Visibility and Visual Effect

76. The full analysis of visibility and visual effect from the relevant viewponts is contained in my Appendix 5. In summary:

Visibility

(a) a number of elements of the proposed BOGP would be visible from a wide range of viewpoints would involve a variety of viewing audiences ranging from highway travellers to backcountry recreational users;

(b) whilst many views are transient in nature (most of the road views) other views are stationary and contemplative such as from conservation areas. Some road views are sustained, some are frontal and framed views. Views along roads are also sequential, an experience of the Site from one point to another;

(c) visibility of mine elements as a whole or in part tends to be at least moderate to high despite distance and their relatively small scale in the context of the mountain range and basin landscape due to their visual discordancy. The whole extent of the mine elements is not visible in any one view (or at any one time taking into account the proposed staging) however the major land-changing elements are visible for the most part and in most views (excluding the underground mine). The least visible elements are the TSF and the process plant due to location deep in the valley;

(d) the views are largely from the west to north with most views from a northwesterly direction. This means that the project elements on the more elevated topography facing west, northwest and north are the most viewed elements. These include the SCELF (generally mid to upper parts), topsoil stockpiles, RASOP (generally upper parts), the WELF and CITOP and the associated roading, machinery activity and night lighting. The Ardgour Rise road would be visible in most views to greater or lesser degrees. The two sanctuaries on the front faces would also be generally visible;

(e) views from a more westerly bearing look into Shepherds Creek valley and see more of the SCELF and RASOP and CITOP. In elevated views from the west, the

process plant would also be partly visible. Elevated views also see the Ardgour terraces complex;

(f) elevated views from the west to northwest see more of the Site elements particularly the SCELF, RASOP and CITOP;

(g) in more northerly views the central ridgeline of the Site with major mine elements along it is viewed more side-on;

(h) the true right ridgeline of Shepherds Creek shields the lower slope and valley floor mine project elements in most views and particularly in more northerly views;

(i) in views from the west to northwest Battery Hill and parts of adjoining ridges form skyline. The topsoil stockpiles and WELF consequently would also form skyline elements and the SCELF and RASOP would be very close to the skyline. The proposed telcomm mast on top of Battery Hill would be a skyline element;

(j) the TSF is only viewed from locations above to the east and northeast, from Thomson Gorge Road and the Ardgour CA however the viewing audience is dominated by viewers enjoying and seeking a scenic and backcountry experience. The TSF and SCELF would be major mine elements in these views;

(k) there are close range views from Thomson Gorge Road and the east end of Matilda Rise where they cross the Ardgour Terraces. This includes close proximity to the Ardgour terraces complex and Site road accessing the lower Gorge, and specific closer views into the valley of the RASOP and CITOP, and skyline elements of the WELF and topsoil piles;

(l) the RAS valley elements are only seen from viewing locations above to the south and east (Mt Moka ULR and Bendigo CA, and Thomsons Gorge Road) however the viewing audience is dominated by viewers enjoying and seeking a scenic and backcountry experience and views would be close to intimate;

(m) the RAS valley elements, the elements along the Battery Hill central ridge and around Battery Hill and the TSF below would be intimately experienced from within the RAS valley (assuming on-going public access);

(n) generally the mine elements would be seen in the central part of an expanse of major mountain range, across the transition area between the Bendigo peneplain and the north Dunstan Range. It would visibly affect most of the range from top to bottom (even though the physical top is largely conservation area outside the Site);

(o) the SAL and ONF of the Bendigo and The Bend Terraces lie across the foreground in many views, closely associated with the Site. The distinctive rocky area of Bendigo reserves and Rocky Point immediately adjoins to the southwest. The mine would thus sit within a viewed landscape that is predominantly ONL and SAL/ONF.

Visual Effect

(p) the visual effect in most of the views despite distance and relatively small scale in context would be at least Moderate-High. This is due to discordance and inhuman scale. In some closer views it would be Very High (if not overwhelming);

(q) the new Ardgour Rise Road and the proposed sanctuaries would have relatively less visual effect;

(r) The Ardgour terraces complex, whilst of greater scale and diversity of elements and with a higher level of activity, would be more in keeping with the perceptual character of the basin floor landscape, relative to other aspects of the proposed mine. Visual effect would be lower in a relative sense except for close views from Thomson Gorge Road where there would be a very high visual effect due to the intensity of the built form and activities including worker accommodation.

Effect of longer term rehabilitation on degree of visual effect

77. The removal of built form and cessation of mining activity would reduce visual effect to nil for those elements. The secluded water treatment building and associated elements would be of Low visual effect in public views. The sanctuary fence lines would soften with revegetation over time. Although somewhat more substantial than a deer fence, tall fences are not uncharacteristic in this landscape. The visibility and visual effect of the sanctuaries is likely to be Low over time. Ardgour Rise Road would be of relatively Low visibility and Low visual effect over time as cuts and batters revegetate. Linear elements such as low-key gravel roads and tracks are characteristic elements in the landscape. The effect of upgrading a farm track would be similar. Remaining roads and tracks within the Site would be of similar visibility and visual presence to existing farm tracks (discounting recent upgrades). Together with a new recreational track, the cumulative visual effect of these linear elements would be low in context. The diversion channels would be located on the valley floor within the valleys. Whilst somewhat incongruous, they would be of limited public visibility and would have low visual effect.

78. The “naturalising” of the very large engineered landforms (ELFs, CITOP, areas where topsoil and brownrock stockpiles were, TSF and other valley floor areas) would be a very substantial undertaking that would take many years to achieve. The re-shaping to achieve natural landform appearance and function would be a large and exacting task in itself. Whilst technically possible, it would require a high sensitivity to and understanding of ambient landform and process.

79. In my opinion however, whilst a “natural looking landform“ may be able to be achieved, the man-made landforms would likely remain permanently incongruous or discordant because of the scale of “inversion” of natural landform (making gullies into ridges or creating an unusual flat hanging valley). No amount of titivation would be able to alter that fundamental incongruity in my opinion. Relying on the ecological evidence[42], I also consider there is a high degree of uncertainty long-term as to whether the re-vegetation proposed is practically achievable to the character required for successful landscape absorption (pre-disturbance condition or better). My recent aerial observations of revegetated mining landforms at Macraes is that their vegetation cover is simply pasture (even after some 20 years on some forms) suggesting that is the most practical and cost-effective method of restoring cover. The initial vegetation cover proposed in the BOGP is hydro-seeding of browntop and sweet vernal. In my opinion, whilst not inappropriate as a land cover in the Otago high country (indeed it is highly characteristic of many areas), it is less characteristic as a dominant vegetation cover in the context of the Site. In my opinion, the vegetation cover within the DDF would remain visually dominated by fine-textured grassland most likely for decades. This would emphasise the discordancy of the man-made landforms. There would be a persistent **visual effect** of at least **Moderate magnitude** for some time, probably decades.

80. The permanent open pits would have a lasting **High to Very High** visual effect due to their scale and high level of discordancy especially when viewed intimately and as the landscape around them is rehabilitated.

Comment on visual simulations

81. Overall the ten visual simulations (VS1-VS10) are helpful to understand the location and extent of visibility and visual effect certain mine elements would have, but they have limitations. It is generally accepted in professional practice that simulations are only a tool to assist understanding of visibility and visual effect

82. They represent 10 static views, amongst a wide geographic scope and variety of views near and far, low and high. A comprehensive visibility and visual effect analysis

[42] Expert Statements of Nick Head, Max Crowe and E3

requires a careful and thorough descriptive account of a viewer moving through the landscape. This has been undertaken at a broad level in the BM analysis[43] however there are omissions as previously discussed. It is noted there are no formal "lookouts" or viewpoints wihtin the Bendigo-Tarras basin that are promoted to visitors and tourists where a stationary view is appropriate for assessment purposes.

83. The base photography is very flat. As the mine elements are rendered to blend with the image they too appear flat. The mine elements are likely to be more visually apparent in reality. Photosimulations also do not convey activity which in this case would be high as a visual effect where there are expectations of peace and quiet.

84. There are no simulations of the Ardgour Terrace complex. There are no night-time lighting simulations. The effect of night lighting would be significant for viewers who have an expectation of natural dark.

STATUTORY PLANNING FRAMEWORK

85. I have reviewed the statutory provisions I consider most relevant to this proposal, in terms of my area of expertise and experience. I consider the BM assessment has identified most of the relevant provisions[44]. However there are some omissions. In this section I will indicate relevant provisions that have been overlooked or bring the Panel's attention to a particular aspect of a provision I consider to be relevant to the landscape effects assessment. This is not intended to be a planning assessment but instead to focus on those provisions relevant to my area of expertise.

86. The Ardgour Terrace area is predominantly Other Rural Landscape but does slightly overlap the Significant Amenity Landscape ("SAL") of Bendigo Terrace (refer diagram in my Appendix 6). The BM assessment has not recognised this, stating "*There are no additional landscape overlays within the site, including those in relation to amenity values and quality of the environment, notwithstanding the overlying ONL classification which applies across the whole Dunstan Mountains."*.[45] BM have consequently not undertaken an assessment of effects on the SAL of the Bendigo Terrace.

Otago Regional Policy Statement

87. **Part 1.2.1 e)** is particularly relevant to the approach to assessing effects on landscape, ensuring that the assessment is not just of the effects on the landscape of the Site as a sub-unit but on the wider landscape resource. In this case, the Dunstan Mountains

[43] Part 6.6 BM Effects Report

[44] Part 4.0 and Appendix 2 of the BM Effects Report.

[45] 4.2.4 BM Effects Report

as an entity; the western face of the Dunstan Mountains as backdrop to the Bendigo-Tarras basin; and as an integral part of the Bendigo-Tarras Basin landscape (which comprises walls and a floor).

88. **Policy 3.1.9** and **Policy 3.1.13** address matters of maintaining or enhancing ecosystem health and indigenous biodiversity and areas of predominantly indigenous vegetation, and encouraging the restoration of existing habitats and wetlands where degraded. **Policy 3.2.2** addresses the protection and enhancement of significant indigenous vegetation and habitats by maintaining or enhancing those values that make them significant.

The Site is dominated by vegetation and habitats that are indigenous and significant, some at a national level. They are a significant landscape value of the Dunstan Mountains ONL. The expectation is that these are protected or enhanced.

89. **Policy 3.2.4** clarifies that the way to protect ONL is to maintain the values that contribute to it being outstanding. That is why it is so important to explicitly identify all the values even where the value itself may not be outstanding.

Policy 3.2.6 requires that significant adverse effects are avoided on those values that contribute to the high value of (in this case) the SAL of Bendigo Terrace (as a "highly valued landscape" referred to in the Policy).

90. The Site is predominantly ONL. The values of the Site are to be at the least maintained. Values underlying highly valued landscape (SAL) that are to be maintained are not modified by following provisions to remedy or mitigate if they cannot be avoided. Those provisions only apply to "<u>other</u> adverse effects" that cannot be avoided.

91. **Policy 5.2.3** addresses the management of historic heritage requiring it to be protected and enhanced. Adverse effects on the values that contribute to the area or place being of regional or national significance are to be avoided. Allied to Policy 5.2.3 is **Policy 5.1.1** which is to maintain or enhance public access to the natural environment, including where possible areas of cultural or historic significance because *"Access to the natural environment and areas of cultural and historic significance is highly valued by residents and visitors.*

92. **Policy 5.4.8** b) is central to this proposal as I understand that the BOGP cannot be located anywhere else. Whether adverse effects are avoided, remedied or mitigated, the outstanding nature of the landscape is to be maintained. If the landscape value cannot be maintained, environmental compensation is to be considered. This is a matter that needs careful consideration. In my opinion it would be very difficult to off-set or compensate landscape effects that are residual. Values conferring ONL status are often inextricable from and inherent in place, they cannot be replicated

somewhere else. This is particularly so with historic heritage and unique landforms/landform legibility.

93. I understand that *where there is a conflict, Policy 5.4.8 prevails over policies under Objective 3.2, (except for policy 3.2.12) Policy 4.3.1 and Policy 5.2.3.* This relates to significant but not outstanding landscapes, and historic heritage. However as heritage is a key value of ONL, then it is also not excluded because maintaining the outstanding nature of landscape requires maintaining key values, such as nationally significant historic heritage.

94. Policy 5.4.3 and also 5.4.8 g) is applicable in this case, requiring a precautionary approach where adverse effects may be uncertain, not able to be determined, or poorly understood but are potentially significant or irreversible. This is relevant to the ecological remediation and off-setting proposals on which the remediation and mitigation of adverse landscape effects relies heavily.

Central Otago District Plan 2008

95. Section 2 of the COD Plan outlines the key issues of the district. These are a useful insight to the particular aspects of the landscape that are valued and why. The introduction to Section 4 Rural Resource area provides further insight. The value of open natural character of the hills and ranges, and skylines ridges and prominent hillsides is explicitly recognised.

96. In my opinion, Section 4 contains the key objectives and policies relating to vegetation clearance, earthworks and bedrock excavation, buildings and structures, etc. which are all the major elements of the proposal. The BM analysis has not included Policy 4.4.7 which relates to protecting significant indigenous biodiversity and Policy 4.4.13 which is to promote the provision of public access to significant natural and physical land features including areas of value for recreational purposes. Section 12 has policies relating to noise, light spill and signage. I do not regard Section 13 as a key section, as suggested by BM, as it only deals with transmission lines and substations.

KEY LANDSCAPE ISSUES

97. Typically, after identifying relevant planning provisions, key landscape issues are identified. Headings can be drawn from these as the framework for effects assessment.

98. The key landscape issues drawn from the relevant planning provisions considered all together are in my opinion:

(a) The ranges of Central Otago are recognised as **outstanding natural landscape,** on account of their nationally and internationally renowned scenic quality, their uniqueness and distinctiveness, the current generally high degree of naturalness and openness, their high visibility, and the natural and cultural heritage they contain. These mountain landscapes are highly valued by the local and regional community for these reasons and are a major reason for wanting to live and work in the district. They also embody significant cultural value to Kai Tahu ki Otakou. The COD Council and the ORC are charged with ensuring the values contributing to this status, individually and collectively, are protected from use and development that is inappropriate. "*In determining what is inappropriate subdivision, use and development in these landscapes it must be recognised that these landscapes are often utilised by people and communities to provide for their social, economic and cultural wellbeing*."[46] However, it is generally understood in a landscape assessment perspective that inappropriate activities are those which would destroy, overwhelm or unduly compromise some or all of the identified values. Enhancement of the values is also encouraged and promoted.

(b) **Highly valued landscapes** - landscapes that have high values but are not outstanding, i.e., SAL in COD, are to be maintained or enhanced. As with ONLs, the focus is on protecting or maintaining or enhancing those values and the physical elements supporting them. Significant adverse effects on those values are to be avoided (i.e., the hierachy of avoid, remedy, or mitigate does not apply).

(c) the visual intrusion of earthworks, structures and buildings on **prominent hillsides, terrace edges, ridgelines and skylines** is identified as a particular issue.[47] The objective/policy is to keep these open and natural.

(d) **Cultural heritage**, particularly relics of early gold-mining activity (heritage buildings, structures and sites) make a significant contribution to landscape values not the least the fundamental role of early gold mining in establishing the settlements and transport infrastructure of Otago. This dimension of landscape, within the wider mountain range setting, contributes to community wellbeing through the historical and cultural values, and also presenting economically significant opportunities for the visitor and tourist industry. This heritage needs to be protected and enhanced, enriching the understanding of and engagement of people with the landscape. Adverse effects on those

[46] Part 4.2.1CO District Plan

[47] Ibid, part 4.2.15

heritage values of regional and national importance are to be avoided (i.e., the hierachy of avoid, remedy, or mitigate does not apply).

(e) The tangible and intangible **cultural values** and interests of mana whenua and their conceptual relationships with whenua and wai and the taonga they hold are to be recognised, respected and provided for.

(f) Central Otago potentially retains **important mineral resources** such as gold, that could provide for the wellbeing of local and regional communities through economic growth and present opportunities for landscape restoration. An upsurge in mining is an anticipated activity in the district due to advances in technology. However there is also potential for significant adverse effects on landscape if mining activity is not appropriately controlled[48] (referring back to meaning of inappropriate).

(g) **Significant indigenous flora** and **significant habitats** of indigenous fauna are widespread through the ranges of Central Otago, particularly for lizards and insects. These aspects of the landscape have intrinsic value, and value to people for their cultural, economic and social wellbeing. They are very important to sense of place and express the rich diversity of the natural landscape of Central, and of Central as a distinct part of New Zealand. Mining is identified as a particular activity that is a threat to these values. The CODC and ORC are charged with protecting, maintaining and enhancing these values. The potential for conflict in protecting these intrinsic values and utilising them is a significant issue facing the community in the sustainable management of the natural and physical resources of the District. Activities that protect, enhance and restore existing degraded ecosystems are to be encouraged.

(h) The COD Council is charged with **maintaining** the **quality and amenity values** of the environment. In addition to the matters above industrial activity and the development of transport networks can result in significant adverse effects of noise, vibration, glare and lightspill, discharges and odour, and visual intrusion including of heavy traffic (intruding on the aspect of ambient tranquillity). New or upgraded network utilities (such as power lines) can also result in significant adverse impacts, particularly visual.

(i) Certain activities can have significant adverse effect on waterbodies (relevantly streams and wetlands), on their health and function and on their natural character. The **preservation of the natural character** of streams and

[48] Part 4.2.4 COD Plan

wetlands and their margins and the maintenance and enhancement of the amenity values particular to them is also required.

(j) **Public access** to natural areas; along rivers, wetlands and their margins; and to areas, features and places of historic and cultural significance is to be maintained or enhanced

99. I agree with the BM assessment[49] that the overriding objectives include **the protection of outstanding natural landscape** (more specifically maintaining the identified values that confer outstanding status) from inappropriate use and development, the **preservation of the natural character of waterbodies and their margins**, and the **maintenance and/or enhancement of rural landscape amenity** generally. In achieving these overarching s6 and s7 RMA objectives, the maintenance of open space and natural character per se and the **open natural character of the ranges** are particularly important along with **protecting significant native vegetation and habitat and cultural heritage.** This includes all aspects of the rural landscapes that are important to and valued by Kai Tahu ki Otago.

100. The landscape is recognised and provided for as a significant resource in the COD Plan "*and care must be taken with respect to the impact of activities on landscape and natural character*. *The open space and natural character of the rural environment is also seen as a significant resource of the District. These values are capable of being compromised by commercial, industrial and/or residential forms of development not traditionally found in a rural context."*[50] Mining of the type and scale proposed is not traditionally found in the ranges of Central Otago.

101. A useful summary of expectations (for landscape) is set out in the Environmental Results Anticipated in Parts 4 and 12.

LANDSCAPE EFFECTS ASSESSMENT

102. The BM assessment of effects under the headings of landscape effects, visual amenity effects, ONL landscape and natural character of streams and wetlands is not inappropriate. However these headings do not address all of the landscape issues embodied in the various provisions of the regional and district planning instruments. I prefer to use headings that directly relate to the intent and wording of provisions. I respond to the BM assessment of effects under these headings. The BM Effects Report has not directly addressed objectives and policies. At the end of each section I identify key provisions and respond to them for completeness.

[49] Part 4.7

[50] Ibid. 4.4.2 Policy – Landscape and Amenity Values

103. My effects assessment is under the following headings:

(a) Landscape character - physical changes and consequent changes to attributes of naturalness and natural character, openness/open space, visual coherence and legibility/integrity of landform and ecosystems, prevailing land use expression (extensive farming/conservation). Address whether the open natural character of the hills and ranges would be maintained. Address whether the proposal is consistent with existing landscape character.

(b) Rural landscape amenity – in respect of changes to character and specific visual effects (on prominent hillsides, terrace edges, ridgelines and skylines and natural features, important views); effects on amenity dimensions of rural natural quiet, dark sky, and tranquillity. Address whether rural amenity values are maintained or enhanced.

(c) Backcountry character – specific effects on the attributes that characterise backcountry experience including natural dark, remoteness and solitude, natural quiet and tranquillity access and opportunity effects

(d) SAL – whether the values that contribute to the high values are maintained or enhanced and address whether significant adverse effects are avoided

(e) ONL – effects on identified values across the three dimensions (includes significant indigenous biodiversity and habitats, sites, places and areas of historic heritage including public access to significant heritage and recreation resources). Address whether the values are maintained/protected (or enhanced/restored) including areas of significant vegetation and whether the ONL is protected from adverse effects of development which is inappropriate including whether it would retain a sufficient degree of natural character

(f) Natural character of waterbodies and their margins. Address whether natural character is preserved; whether the landscape and amenity values of wetlands is maintained including access to them; whether areas of significant wetlands are protected

104. In addressing these matters, the provisions of the Otago CMS are inherently relevant. In particular, securing threatened species, restoring kowhai trees in the landscape, ensuring the rich history remains visible and accessible including journeying, and backcountry qualities of natural dark, quiet and tranquillity are maintained.

105. The assessment of effects is necessarily at Site level with respect to some values because some of the effects are specific to experiences within the Site (such as views from Thomson Saddle). The Site is also very large, not the least including the Ardgour

Restoration Area. A number of effects however need to be addressed at the contextual landscape scale of the central Dunstan Mountains and at the Bendigo-Tarras basin scale (ranges as walls, moraine and fluvio-glacial terraces and alluvial fill as floor). The effects assessment will range between the scales and contexts.

106. An assessment of effects needs to be in two parts. The first part is an assessment of effects during set up and mining operations to their maximum extent over a period of some 15-17 years taking into account a period of closure activity. In my view, this cannot be regarded as a temporary effect (which in my experience is typically in the time frame of 6-12 months e.g., for earthworks remediation, and no more than 7-10 years for vegetation reaching sufficient screening effect). The second phase is the envisaged post-closure landscape in 18-35 years time.

LANDSCAPE CHARACTER - physical changes and consequent changes to attributes of naturalness and natural character, openness/open space, visual coherence and legibility/integrity of landform and ecosystems, prevailing land use expression (extensive farming/conservation). Address whether the open natural character of the hills and ranges would be maintained. Address whether the proposal is consistent with existing landscape character.

107. An analysis of the changes to the landscape character is a useful step preceding assessment of effects on amenity, and ONL/SAL. The physical changes to the landscape caused by the proposed BOGP are generally regarded as being accurately described in the BM Effects Report[51].

108. Physical changes that appear to have been overlooked as they are not explicitly mentioned include:

(a) removal of a large number of historic heritage features (relict structures, linear elements such as water races and trails/tracks/roads, areas of old gold workings);

(b) removal of a number of mature kowhai;

(c) removal of large areas of native-dominated vegetation (short tussock, grey shrublands, cushionfield/herbfield) including a range of native species to a greater or lesser degree, apart from listing vegetation removal in the CITOP area and removal of shrubland in the TSF footprint. I expected to find more detail on what is being removed in the BM description of effects;

[51] Parts 6.5.2, 6.5.3

(d) removal of substantial sections of the Shepherds valley formed track and trail along the ULR (also an historic element);

(e) changes that may occur within the Ardgour Restoration Area;

(f) the new walking access and willow clearance along Clearwater Stream and Bendigo Creek;

(g) night lighting effects (limited to a mention in association with the SCELF);

(h) descriptive detail of dust, noise and traffic and general activity effects.

109. The assessment of effect on character is in the context of the Bendigo-Tarras basin as a place with its particular character. Effects on the basin floor and rangeland areas (the walls), as distinctly different "landscape character areas" within this context, is inherent in this analysis.

110. In summary, the character effects described in the BM Effects Report would be disruption to intactness, legibility and overall integrity of individual landforms and natural landform pattern, and drainage and vegetation patterns and their interrelationships; insertion of highly engineered benched and linear landforms into the landscape (pits, ELFs, roading and the predator proof fencing); insertion of contrasting landforms with regard to natural pattern (the TSF a large flat landform); disruption to visual coherence; transient effects of machinery and activity; and a higher density of built form within the rangelands and on the basin floor. Attributes of openness, naturalness/natural character and remoteness would be adversely affected.

Effect on Natural Character

111. The Dunstan Mountains range currently has a high degree of natural character. There is no overt development on the range. There would not be a reducing effect on the degree of natural character of the Dunstan Mountains when considered as a whole, because of the scale of the range (i.e., it would be able to continue to be rated as "high"). The proposed BOGP would however fundamentally alter the characteristic of the range from having no overt development on or in it, to having an overt expression of industrial development (i.e., a lesser version of "high"). For comparison, the Pisa Range has overt large-scale development on it and the Cardrona and Treble Cone ski areas are an ONL. These facilities inherently cannot locate anywhere else (similarly the proposed BOGP cannot locate anywhere else). However these developments (established between the 1960s and 1990s) were already in place when the ranges were identified as ONL in the late 1990s and have special zoning.

112. This change in character would affect one of the most visible and more regularly viewed parts of the range. Moreover the proposed mine Site happens to be located on the only part of the range where people can cross it by public road and have ready public access to areas within the central part. This part of the range is more intimately and frequently experienced. The perception of reduction in natural character would be elevated as a consequence. With the mine in operational phase, the landscape of the central part of the range would be perceived as having low natural character.

113. The natural character of the Basin floor is Low due to the extensive modification and development there. The proposed BOGP elements on the Basin floor would further reduce natural character however it would remain Low in degree.

Prevailing Character Type

114. I largely agree with the BM Effects Report that, overall, there would be a change in character expressed by prevailing land use from extensive pastoral and conservation and a typical high country character to a mix of pastoral, conservation and industrial mining activity.

115. The mining activity as a land use is highly uncharacteristic of the landscape, both of the rangelands and wider basin. It would be a unique anomalous land use. It would not fit with the existing and developing basin landscape character of more intensive and modifying land uses on the basin floor and terraced footslopes and relatively low intensity land uses with a relatively light footprint on the rangelands.

Consistency of Proposed Elements with Character

116. Historic gold mining has shaped parts of the landscape however these effects have been relatively small in scale and more of an artisan nature. Remains have largely broken down and have been able to be absorbed back into the landscape because of their small-scale and surficial nature. Many are hard to see under regenerating kanuka and grey shrubland cover. The proposed mining activity would comparatively have an inhuman scale and would express a heavy industrial character. The proposed mine would introduce large dominating elements that would be emphatically discordant (the large, open-benched hardrock pits, the large topsoil and brownrock stockpiles); and would introduce landforms that unnaturally "invert" the natural topography (ridges instead of gullies with the ELFs). The TSF would be an unnatural flat valleyfill landform, an anomalous hanging valley form within the rangeland landscape. The WELF would sit unconformably against and on the planar side slope of the RAS middle gully on the western margin, interrupting and partially obfuscating the striking arrangement of landforms and drainage.

117. Whilst farm vehicle tracking is a typical element on the rangelands and there is one rough gravel road, the density, scale and pattern of the haul roads and other roading and tracking would be strongly uncharacteristic. These would not be able to be absorbed by vegetation cover (either because there is none or it is too low and open in stature). The existing exploratory network of tracks demonstrates this effect. Where the disturbed areas would be sown in grass, the resultant open grass cover would be a contrast to the mosaic vegetation cover in the ambient landscape. This would not be the case on the terraces where ambient cover is exotic grassland.

118. The removal of large areas of native-dominated vegetation replaced by bare ground/rock or exotic grass would be highly uncharacteristic on the scale proposed. It is more consistent on the basin floor where large areas are cultivated.

119. Key characteristic elements of the landscape would be permanently removed. A large number of heritage features would be removed, replaced by the large new landforms of the mining activity. This represents a substantial loss of characteristic elements particular to the central range area, due to the concentration of these elements within the Site.

120. The diversion channels and small ponds of various kinds would be somewhat in keeping with the character. Linear water transport elements and dams are typical of both farmed and historically mined landscapes.

121. The built forms would be highly uncharacteristic in the rangelands landscape in type, scale and density and uncharacteristic of the basin landscape in density and type to some degree (but not scale). There are almost no buildings in the rangelands let alone a large industrial processing plant, machine serving workshops and the associated infrastructure (conveyors, tanks, etc). Clusters of buildings serving the vineyards, cherry orchards and farms are characteristic of the basin floor lands along with structures such as nets over crops and pivot irrigators. Powerlines and pylons are also typical elements. The less characteristic aspect of the Ardgour terraces complex is the density and scale of activity and the worker accommodation in units and campers/caravan. These would be novel.

122. A strongly anomalous and discordant element would be the constant activity over a large area of heavy mine machinery and other activity, and associated dust, noise and night lighting. These effects are the anti-thesis of the natural quiet, tranquillity and dark sky experienced in rangeland where extensive pastoralism and conservation land uses prevail. They would also be of an uncharacteristic scale in the context of the basin landscape where there are somewhat higher levels of noise, daily activity and night lighting but not of the scale and duration that would occur under the BOGP. I understand this would occur 24/7 in the pits, TSF, ELFs and processing area for a number of years as long as the mining and closure activities are in progress.

Response to BM effects assessment

123. I disagree the sense of modification would be localised. Whilst some aspects of the proposals would be largely screened from external view due to location within the valleys, and the mine footprint is limited to a relatively small area in the scale of the landscape, my visibility analysis and the ten BM Visual Simulations show the changes to the landscape would be clearly visible from a wide range of viewpoints near and far, high and low. Due to the location where Thomson Gorge Road crosses the range, the changes to landscape character perceived from the Thomson Saddle area including the access to Mt Moka and from within the Ardgour CA would be obvious.

124. The nature and degree of effect on landscape character, and more specifically on the attributes described above, is summarised in Table 2 p43 of the BM Effects Report. All effects are adverse and are assessed as being mostly Moderate to Moderate-High in magnitude. Some elements would have a High effect on their own (the TSF, RASOP, CITOP, SCELF). The overall effect on the Dunstan Mountains landscape is ranked to be Moderately adverse. The reasons for this rather than the higher magnitude of effect suggested by the individual analyses is that "*the proposed mine will largely remain contained within the site*" and "*substantially disrupt two of the more modified valley systems within the ONL*" and "*the overarching natural and open character and skyline above will largely remain*"[52].

125. Whilst the Dunstan Mountains are large in height and length and the proposed mining activity would occupy a small part of the range, a core characteristic of the range is the homogenous high natural and coherent character. Landform and vegetation cover in natural patterns prevail. The mining activity would be unique and so anomalous that its effect would be strong in most experiences of landscape within the Basin. Its effect would not be "*largely contained to the site*" in my opinion. That observation could only be applied to the processing plant and valley floor activities, and the TSF and RAS valley components to a degree. This is demonstrated by the visibility of the components in VS 1-10. Its location in a more visible and central focal part of the range amplifies the effect. In closer landscape experiences, including within the Site, the effect on character would be perceived as overwhelming due to the inhuman scale.

126. The RAS and Shepherds Creek valleys are not "*more modified valley systems*" in the context of the range to the extent their character is able to better absorb the proposals. Discounting the exploratory tracking and drill sites the valleys have a similar character to other valleys along the range. There is a slight difference being the RAS valley has a road passing through it and both valleys have relicts of historic gold

[52] Part 6.5.4 BM Report

mining. These elements are relatively small, low-key and of human scale in keeping with other elements such as farm tracking and fence lines common across the range.

127. In my opinion, the adverse effect on landscape character would be substantial if not overwhelming at close quarters (i.e., a very high level of effect) because of the nature and degree of change to the rangeland landscape. It is also a case of "the first cut is the deepest". I do not agree that "*the overarching natural and open character and skyline above will largely remain*"[53] except with respect to views where the Site is seen more obliquely within the range and from a low elevation viewpoint such that the large pit and ELF landforms are not able to be distinguished. In reality people are moving around in this landscape such as way there would be an everchanging view of the range particularly if along the highways or along the future river cycle trail.

128. There would be various skyline and ridgeline effects including by traffic and night time lights. The telcomm mast would be on top of Battery Hill. The natural skyline would be permanently altered in some views by the WELF, SCELF and the RASOP.

Basin floor effects

129. The effect on the basin floor is limited to the Ardgour terraces complex and associated activity. Dryland farming use predominated on the floor around the Site up until about 2000-2015, as well as vineyards on the high terraces. Although landscape was completely modified, it retained the valued atttributes of lower intensity pastoral farming: openness, spaciousness and a quiet rural atmosphere. Since that time, intensive pivot-irrigated farming has established along with cherry orchards. The landscape character has a more agri-industrial character. The proposals would have a lower level of effect on the character of the basin floor as the elements per se are not uncharacteristic. The main effect would be an uncharacteristically high density of built form, a relatively dense residential use in worker accommodation, and an uncharacteristically high level of daily activity (traffic and presence of people) over a long period of time. This would constitute an adverse effect on character of a Moderate degree in my opinion.

Effect on character post-closure

130. With the removal of all plant and cessation of mining activity, the longer-term character would generally express the pre-existing extensive pastoral and conservation land uses, with a greater emphasis on nature conservation. On the basin floor, there woud be a return to an open pastoral character.

[53] Ibid.

131. The proposal is heavily reliant on large-scale re-vegetation and enhancement of native plant communities as a major mitigating and off-setting/compensatory measure however. If successful as proposed, the outcome could mimic naturally-occurring native-dominant mosaic vegetation communities sufficiently to something like the pre-existing vegetation cover. As outlined earlier in my evidence, there is a high degree of uncertainty and risk associated with the proposed mitigation measures. Within the DDF, revegetation is, in my opinion, more likely to be a dominant browntop grassland with slowly emerging mosaic pattern of native plant communities. An artificial character is likely to persist for some years within the Site and the wider Ardgour Restoration Area, not the least due to plant protectors, new access tracking and fencing, etc and a spread of plants of unnaturally even height and age.

132. Notwithstanding the potential for re-establishing native-dominant natural-looking vegetation, the new permanent landforms would fundamentally remain discordant with a persistent adverse effect on landscape character. The RASOP in particular would remain as a large, visually prominent and highly unnatural hard rock pit with an industrial character. The "naturalised" diversion channels would appear natural but would sit unnaturally high in the valley floor which would be raised throughout its length. The TSF would remain as a large unusual large flat "hanging valley".

133. The characteristic heritage elements would be permanently lost as part of the landscape character. This is a significant loss in my opinion. I do not consider the new mining elements to contribute positively such that they add to the gold mining history. The scale is magnitudes different and the manner industrial. Previous features are removed and replaced rather than the story being added in the manner of a palimpsest.

134. Overall the long term effect on landscape character is considered to be adverse to a High degree primarily due to the open pits remaining as prominent elements and the loss of heritage elements and the RAS valley experience on Thomson Gorge Road.

Key provisions:

135. Whilst matters of effect on landscape character are inherent in protecting ONL and rural landscape amenity values, there are no specific provisions around landscape character per se. However it is clear that the existing landscape character is important and regarded as a significant resource:

136. *CODP 4.1 It is apparent that the character of the landscape is an important element in making Central Otago an attractive place to live in and to visit.*[54]

[54] COD Plan Part 4

137. *CODP 4.1 The amenity values of the rural environment are dominated by Central Otago's unique, semi-arid landscape of broad basins separated by low mountain ranges with sparse vegetation, covered in tussock grassland and exotic pasture, and broken by schist rock outcrops. This landscape retains a high natural character and has significant scenic values*[55]

Natural character would be reduced and would not be high in the central part of the range. It would not retain significant scenic values.

138. *CODP 4.4.2 The open space and natural character of the rural environment is also seen as a significant resource of the District.*

Open space and natural character would be reduced in degree.

139. *CODP 4.3.3 Objective - Landscape and Amenity Values*

To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.

The open and natural character of the range would not be maintained in the first 15-17 years. Natural character would be adversely affected in the longer term to greater or lesser degrees, depending on the success of revegetation.

140. *CODP 4.4.2 These values are capable of being compromised by commercial, industrial and/or residential forms of development not traditionally found in a rural context*

Mining activity of this magnitude is not traditionally found in this rural context. It would be unique and anomalous.

141. *CODP 2.3.1 Remnant structures such as stone walls and associated decaying cottages are small in scale and add to rather than dominate the landscape. Former mining sites are now an integral and distinctive part of the District's landscape*

A large number of heritage features and sites would be destroyed removing their contribution to the landscape character.

[55] Ibid.

RURAL LANDSCAPE AMENITY – in respect of changes to character and specific visual effects (on prominent hillsides, terrace edges, ridgelines and skylines, important views); effects on amenity dimensions of natural quiet, dark sky, and tranquillity. Address whether rural amenity values are maintained or enhanced.

142. The proposed mine, or more accurately various parts of it at different times, would be visible to various degrees from a wide range of viewpoints and by a range of viewing audiences. Some views would be in transit, others are stationary and contemplative in nature. Many views are – or will be - in the context of enjoying the Central Otago scenery especially the rivers and mountains (e.g., the proposed cycle trail along the Mata Au). For residents and regular visitors to the area the mountains and hill ranges are familiar backdrops appreciated and known for their high visual qualities.

143. I agree the mine as a whole would be "*somewhat hidden from the view of the public*"[56] in that some elements are deep in the valleys screened from basin floor views. The exceptions are in elevated views from above to the east, and in some elevated views from the west and from one section of Thomson Gorge Road close to the Site from where elements in the RAS valley would be more visible.

144. The BM Effects Report summarises an assessment of visal amenity effects in Table 4, finding them to be adverse and Moderate or less in magnitude. Only one adverse visual amenity effect of Moderate-High was given, from Ardgour Road (southwest end). This appears to be despite the acknowledged strong visual effects of the SCELF, soil stockpiles and haul roads, RASOP and WELF variously and repeatedly described through Part 6.6.1 of the BM Effects Report as "*permanent disruption to the visual coherence", "introducing industrial characteristics"* and *"form a clear modification and erosion of the coherent landscape",* or similar wording. In my opinion, the visual amenity effects have been underestimated. This is also partly a reflection of the reductionist approach to assessing visual amenity effects element by element without considering the project as a whole, notwithstanding the staging of the works. The cumulative adverse visual effect of the proposed mine and associated off-set and compensatory activity and detracting elements within the context of the Bendigo-Tarras basin has not been considered.

145. The changes to landscape character have been described in the preceding section. Adverse effects on natural character, openness, legibility and visual coherence are all adverse visual amenity effects and they are inherently of a cumulative nature. There would be skyline and ridgeline effects due to the SCELF, topsoil stockpiles and the WELF; and with the RASOP very close to the skyline. There would also be effects of

[56] p23 Part 5.0 BM Report

land use on prominent hillsides. These effects would cumulatively be adverse to a high degree in my opinion during mining operations.

146. Relevant to cumulative visual effects are existing detracting elements such as extensive often garishly coloured netting over cherry orchards and vineyards, and the agri-industrial character of large vineyards and pivot-irrigated pastoral farming which in my view has a considerably lower visual quality than the dryland pastoral farming that previously existed. The addition of the proposed mine elements including a substantial increase in traffic within the rangelands and on the basin floor on the Ardgour terraces combined with these elements (at least at certain times of the year) would be a significant overall detracting effect on visual amenity of the rural landscape of the Bendigo-Tarras Basin.

147. On cessation of mining and after re-shaping and re-vegetating of disturbed areas, adverse effects on natural character, legibility and visual coherence would remain and persist. They would result in adverse effects on visual amenity of at least moderate-high degree in my opinion. The RASOP would remain as a visually prominent large discordant industrial element. The RASOP, WELF and SCELF and the TSF would appear as large discordant landform elements despite their "naturalisation". The SCELF and WELF - and the CITOP to a lesser degree - "invert" natural landforms: structural gullies become ridges. The SCX ELF is shown as an unnatural angular lump on the floor of the RAS valley.

148. The visual amenity from locations around Thomson Saddle would be heavily impacted due to the proximity and scale of the man-made landforms of ELFs and open pits, the TSF and the haul roads as substantial linear scars especially during the operative phase. In the longer term the reinstated experience of the RAS valley would be significantly diminished compared to its current character in my opinion.

149. Other important aspects of rural landscape amenity that would be adversely affected are dark sky, noise and tranquility as described in the preceding section. These dimensions of the landscape would all be adversely affected by mining operations, signifcantly from some places such as Thomson Saddle. The amount of daily traffic is predicted to substantially increase[57] including heavy traffic especially during the construction/set up phase. This would generate substantial noise as well as disruption to tranquillity. There would be areas of flood lighting that would move around various operational areas not all of which would be located in the pits out of sight. The lights of vehicles moving around on the hillsides would be present 24/7 for a number of years, depending on where the work is being undertaken in the pits and constructing

[57] Para. 6.1 B.30 Stantec Integrated Transport Assessment

the ELFS and TSF. This would also affect tranquility especially from elevated CAs looking down on the Site.

150. In views from the air, for example flights between Auckland or Christchurch and Queenstown, there would be birds-eye views down on to the mining project, in the context of a natural mountain range. The visual contrast would be high.

Post-closure

151. On closure at Year 25, the degree of adverse visual amenity effect was generally considered in the BM assessment to be no more than Low, with Low-Moderate effects given from local Tarras roads and Ardgour Road. The degree of lasting adverse effect on visual amenity is likely to be higher in my opinion, especially from within the Site when public access is restored and from viewpoints around the Site. The open pits would remain as overt discordant elements and the RASOP would be of in-human scale. Both would retain a raw engineered appearance. The inverted landforms of the ELFs and the unusual hanging valley TSF would remain permanently as discordant landforms despite titivation to naturalise their surficial appearance. The degree to which a natural-looking vegetation cover could be restored is uncertain as discussed previously. The overall lasting effect on visual amenity is considered to remain at least moderate-high, correlating closely with lasting adverse effects on landscape character.

Key provisions:

CODP 4.3.3 Objective - Landscape and Amenity Values

To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.

152. Rural amenity values conferred by open space, natural character and the open natural character of the hills and ranges, and also the relict built forms of the gold mining heritage sites, would not be maintained. This would vary in magnitude of effect, depending on the location and context of the viewer. There would be many locations and contexts with a high degree of adverse effect.

CODP 4.4.2 Policy — Landscape and Amenity Values

153. *To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied or mitigated through:*

a. The design and location of structures and works, particularly in respect of the open natural character of hills and ranges, skylines, prominent places and natural features,

b. Development which is compatible with the surrounding environment including the amenity values of adjoining properties,

g. Encouraging the location and design of buildings to maintain the open natural character of hills and ranges without compromising the landscape and amenity values of prominent hillsides and terraces.

The open natural character of the hills and range, and its skylines, prominent places and natural features would not be maintained. Whilst the location of buildings would not affect open natural character particularly of skyline, ridgelines and prominent hills, the mining operations would affect them substantially. The WELF would affect the natural feature of the RAS valley. The development as a whole would not be compatible with the surrounding environment.

BACKCOUNTRY CHARACTER – specific effects on the attributes that characterise the backcountry experience including natural dark, remoteness and solitude, natural quiet and tranquillity; and on access and opportunity effects

154. The central Dunstan Mountains currently provides typical backcountry experiences within the RAS valley and the CAs adjoining. The existing backcountry character would be adversely affected by the BOGP to a high degree in my opinion (discounting the recent and current exploratory activity as I understand the land is to be restored to pre-consent condition on cessation of activity).

155. The existing access to the backcountry, and the experience of the journey itself would be irreversibly altered. The experience within the public CAs would be heavily affected close to the Site, and less affected further away (Neinei i Kura and Bendigo CAs). However the experience of getting to those areas would be permanently significantly affected with large mine elements remaining.

156. I agree with the BM Effects Report[58] that the sense of remoteness and high levels of perceived naturalness would be affected and there would be a disruption of the existing sense of openness. In my opinion, the magnitude of these adverse effects would range from moderate to very high depending on location. There would also be high adverse effects on natural dark, quiet and tranquillity during mine operations. The effects would be very high from Thomsons Gorge Road (from the top), the ULR to Mt Moka, from within the western part of the Ardgour CA including the access to Neinei i Kura. As these areas are relatively easy and quick to get to, the loss of

[58] 6.5.4

remoteness and natural character may be felt more keenly. Values of natural dark, tranquility and quiet would be largely restored post-closure.

157. The Thomson Gorge Road experience would be irreversibly altered, notwithstanding permanent closure to vehicle access. The new Ardgour Rise Road is proposed to replace the existing road on a like-for-like basis: "*Ardgour Rise, will create a like-for-like connection between Ardgour Road, and the Manuherikia Valley, creating a new and modified feature enabling a different public experience to the north of the Shepherds Creek valley …Landscape effects are expected to dissipate to neutral over time where this reintroduces opportunities to interact with historic and more recent gold mining activity when passing west of Thomsons Saddle*."[59] and "*The reinstatement of access will provide for open views of some of the project elements, however reinstatement of access is to respond to the existing landscape values associated with mining history, and traditional travel connections through the valley. In this context visual effects on closure of the mine on users of Thomson Gorge Road are considered* ***neutral*** *and not necessarily adverse in the context of reinstating a beneficial recreational opportunity*"[60]. The new road may be like-for-like in the physical driving experience although it would be double-fenced. I cannot comment directly on the comparative scenic experience as I have not had an opportunity to travel the proposed route. It is very likely there would be appealing expansive views across the Bendigo-Tarras Basin albeit with new post-closure landforms in them. It would not be possible however to replicate the existing experience available on Thomson Gorge Road or even provide something similar. The new road would not be on a historic route, it would not travel through the unique RAS valley, it would not travel past wetlands and dense grey valley shrublands and rocky gorges, and it would not be associated with any historic heritage. The current sense of backcountry, of relative remoteness, and the high degree of openness currently experienced would not characterise the new road in my opinion. It would be a totally different, simpler experience largely comprising the driving experience and elevated views with overt modern industrial scale mining remnants; and views of the on-going restoration activities. Further, as the experience already exists, reinstating it cannot be regarded as beneficial. What is being proposed is an experience of considerably less value. It would not in my opinion be a "*superior experience*" as opined in the Recreation Effects assessment[61].

158. The BM assessment has not addressed the loss of the Shepherds Creek valley ULR. The ULR has the potential to form a readily accessible backcountry loop experience for hikers, cyclists, runners and horse riders combined with the existing Thomson Gorge

[59] Part 6.5.3.14 BM Effects Report

[60] P51 part 6.6.1.2 ibid.

[61] P37 B.39-Rob-Greenaway-and-Associates-Recreation-Assessment-Greenway-2025

Road. In my opinion this would be a highly valued loop. The road and trail itself is a heritage feature and there are other heritage features in proximity. The overall recreational and heritage exploration experience of the two valleys together could be significantly enhanced in my opinion. The proposals would fully destroy this resource by removing the track and almost all the heritage features in proximity. Whilst the new Ardgour Rise road would create a loop physically, the opportunity for a backcountry loop trail in heritage landscape would be permanently lost. This is a significant adverse effect in my opinion.

Key provisions:

159. CODP 4.3.4 Objective - Recreation Resources

To maintain and enhance the quality of the District's recreation resources and public access to those resources.

Whilst public access over the range would be maintained in a physical sense, access to existing recreation resources would be significantly disrupted. The quality of the resource and public access to it would not be maintained or enhanced, but rather degraded. The valued existing Thomson Gorge Road experience with its distinctive heritage and natural landscape features would be permanently lost as an opportunity, not the least because portions of the road itself and a number of the heritage sites and features would be destroyed. The convenient access to the CIT pit would also be lost for some time as an opportunity.

160. The potential valuable loop recreation resource of the Shepherds Creek valley ULR and the quality of it as a heritage resource along with other features within the valley in proximity to it would be permanently lost.

CODP 4.4.14 Policy - Back Country Amenity Values

To ensure that activities avoid, remedy or mitigate adverse effects on the open space, landscape, historic, natural character, natural quiet and amenity values of the quality and range of recreational opportunities available in, the District's back country and/or remote areas.

There would be significant and lasting adverse effect in my opinion on the attributes of open space, historic, natural character, natural quiet and amenity values (which are all landscape values) that would be experienced in the backcountry areas around and of the Site. It follows that the quality and range of recreational opportunities available in the backcountry areas of the central Dunstan Mountains would be diminished.

SAL – whether the values that contribute to the high values are maintained or enhanced and address whether significant adverse effects are avoided

161. The BM Effect Report does not address SAL explicitly. A small part of the Site is within the SAL (Ardgour terraces complex and access road, new transmission line). As discussed previously the activities and elements are in themselves not uncharacteristic of the SAL. The values of the SAL have also been compromised in my opinion by the development of agri-industrial land use supported by pivot irrigation and large-scale vineyard development. However values of open space per se and values of rural quiet, tranquillity and rural dark remain and overall a rural pastoral/viticultural/horticultural character predominates. The proposals would introduce an uncharacteristically high level of traffic movement and human activity, worker accommodation and a denser expression of built form as well as an additional powerline. There would be Moderate adverse effect on landscape character and associated values. This would reduce to Very low on cessation of activity and return of the land to pastoral agriculture (as the new power ine woud remain).

Key provisions:

162. **RPS 3.2.6 Managing highly valued natural landscapes**

Maintain or enhance highly valued landscapes by

a) Avoiding significant adverse effects on those values that contribute to the high value of the landscape

Significant adverse effects would be avoided. On cessation of activity the existing landscape character would be substantially restored (power line would remain).

PROTECTION OF ONL – effects on identified values across the three dimensions (includes significant indigenous biodiversity and habitats, sites, places and areas of historic heritage including public access to significant heritage and recreation resources). Address whether the values are maintained/protected (or enhanced/restored) including areas of significant vegetation and whether the ONL is protected from adverse effects of development which is inappropriate including whether it would retain a sufficient degree of natural character

163. I have assessed the potential effect of the mining activities on the identified values of Dunstan Mountains ONL contained in a table in Appendix 7. The values include Site-contributed values. The effect of the mining and associated activities on each value is briefly described and its magnitude assessed and it is noted whether the value is maintained or not. This is firstly for the active mining and early closure period (15-17

years) followed by assessment of longer term effects up to the end of the 35 year term.

164. I disagree with the BM assessment conclusion that the overall effect on the Dunstan Mountains ONL would be adverse to a Moderate degree during operation and reduce to Low-Moderate Adverse post-closure[62]. In my opinion this reflects the inadequate identification and recognition of values including the significance of those values. Effects on values would be mostly adverse, a few would be neutral. Where adverse, effects mostly range from moderate to high, with one low effect and two very high effects (the substantial loss of historic heritage and loss of access to heritage; and removal of the protective Bendigo covenant as an expression of strong shared/associative value to enable its values to be destroyed or compromised). These effects would mostly persist in the longer term, most notably the very high effects.

165. Considering the adverse effect on natural character, and the cumulative high adverse effect on the values that support ONL status, the central part of the range on the west side would not have sufficient natural character or high enough remnant values to warrant ONL status during mining operations. As a number of the values happen to be concentrated on this central area, this affects the value of the wider western range values and in some respects the eastern side as well. Chief among these is the loss of the pastoral and mining heritage and mana whenua values which are focused on Thomson Saddle, the Thomson Gorge Road and in RAS and Shepherds Creek valleys; the compromise of landscape legibility along the TGF in the RAS valley; and the loss of what is so far known as strongholds and significant populations of threatened plant species in Shepherds Creek valley. The central area is also the only readily accessible part of the range for public access and recreation in a backcountry setting. Due to the range of adverse effects across the values, the outstanding quality of the Dunstan Mountains would be significantly compromised in my opinion. This would be a lasting effect that would not be able to be mitigated. Off-setting and compensation for landscape values is not a methodological option (as it is for residual effects on ecological values) and would be extremely difficult to do in my opinion.

166. In my opinion the Dunstan Mountains ONL would not be protected from the adverse effects of inappropriate development. The proposed BOGP is considered to be inappropriate development during the operative and closure phase (15-17 years) because of the significant impact it would have on many of the values that contribute to outstanding status.

167. Post-closure there would be lasting adverse effects that are significant in my opinion. Whilst not sufficiently permanently lowering natural character of the central range

[62] Part 6.5.4 BM Effects Report

area to preclude ONL status and sufficiently restoring values to mitigate some of the adverse effects, the ONL values would be heavily compromised in my opinion. Notwithstanding the uncertainty and concerns around permanent loss of significant ecological values and the ability to restore them and appropriately off-set residual adverse effects, there would be permanent loss of the historic heritage and lasting effects of discordant landforms, as well as the loss of the RAS valley experience as a whole and the loss of the potential value of the Shepherds/RAS valley loop as a backcountry recreational resource.

Key provisions:

168. **RPS Policy 5.4.8 Adverse effects from mineral and petroleum exploration, extraction and processing**

Manage adverse effects from the exploration, extraction and processing of minerals and petroleum, by:

a) Giving preference to avoiding their location in all of the following:

iv. Areas of significant indigenous vegetation and significant habitats of indigenous fauna beyond the coastal environment;

vi. Outstanding natural features and landscapes beyond the coastal environment;

viii. Places or areas containing historic heritage of regional or national significance;

b) Where it is not practicable to avoid locating in the areas listed in a) above because of the functional needs of that activity:

ii. Avoid, remedy or mitigate, as necessary, adverse effects on values in order to maintain the outstanding or significant nature of a)iv-viii;

v. ***Consider environmental compensation*** *if adverse effects described in b) ii, other than on indigenous biological diversity, cannot practically be avoided, remedied or mitigated;*

Where there is a conflict, Policy 5.4.8 prevails over policies under Objective 3.2, (except for policy 3.2.12) Policy 4.3.1 and Policy 5.2.3. (ie policies addressing ONL, highly valued landscape and historic heritage)

169. Policy 5.4.8 would prevail as it is not possible to locate this mine anywhere else. However, the proposal would not maintain the outstanding nature of the Dunstan Mountains, including values that are outstanding in themselves (historic heritage,

ecological), despite measures to avoid, remedy or mitigate adverse effects on landscape values. It would be very difficult to compensate residual adverse landscape effects.

NATURAL CHARACTER OF WATERBODIES AND THEIR MARGINS - Address whether natural character is preserved; whether the landscape and amenity values of wetlands is maintained including access to them; whether areas of significant wetlands are protected

170. I cannot comment on the existing natural character of the creeks within the Site that would be affected as I have not had an opportunity to view them all. I accept the BM assessment of a low-moderate/moderate level of natural character[63]. I rely on the description in the BM Effects Report of the physical changes to the waterways and wetlands.

171. Shepherds Creek - given the complete erasure and relocation of the natural streams and wetlands in man-made channels at an unnaturally higher elevation in middle to lower Shepherds Creek, the degree of effect on natural character would inevitably be Very High in my opinion (rather than Moderate-High). On closure the streams would still be entirely man-made. On the assumption a naturalistic character including riparian planting can be restored that approximates the natural course, I agree the lasting degree of effect on perceptual natural character would be Moderate in degree. I agree that overall level of perceived natural character would drop from Moderate to Low.

172. Inevitably however, the effect on the natural character of Jean Creek and that part of Shepherds Creek under the TSF and WELF would be overwhelmingly adverse as it would no longer exist. I agree the replacement waterways in different man-made locations would most likely have a lasting Moderate adverse effect with respect to the final appearance of the waterways and constructed wetland.

173. Rise and Shine Creek – this waterway would be less affected in particular the large wetland in the lower part of the valley would remain intact. I agree that there would be Moderate adverse effects on natural character during operations and a Low-Moderate adverse effect on closure, with some localised sections of High degree of effect such as the permanent diversion around the RASOP. I agree that overall level of perceived natural character would drop from Low-Moderate to Low.

174. The construction of a wetland just outside the mouth of Shepherds Creek is somewhat out of place given the creek is normally dry at this point.

[63] Part 7.2.1 and 7.2.2.

Key provisions:

175. ***CODP 4.3.6 Objective - Margins of Water bodies***

To preserve the natural character of the District's water bodies and their margins.

The natural character would not be preserved. The overall lasting effect would be a lowering of natural character from low-moderate/moderate to Low.

CONSENT CONDITIONS

176. In the event consent is granted wholly or in part, I recommend that consent conditions are crafted to ensure the following outcomes:

(a) Landforms are recontoured using GPS tracking, with modelling data supplied by a suitably experienced landscape architect. Contour interval is to be no coarser than .25m. Contour data is to be derived from an interrogation of surrounding natural topography.

(b) Any substitute grass species for hydro-seeding shall be low productivity type grasses best suited to the harsh conditions and to be consistent with the natural rangeland character.

(c) All management plans are to be fully integrated with clear cross-referencing with an over-arching single integrating project management system.

(d) All re-vegetation is to be specified in terms of clear measurable time-bound metrics (areas, densities, patterns, total numbers, target cover ratios, growth metrics, etc).

(e) Planting and post-planting specifications are to be included with clear concise and measurable metrics (planting grades, protection measures, mulching, releasing, weed cover ratios etc).

(f) Where natural regeneration is relied upon, there are also to be clear measurable time-bound metrics and where targets are not met, alternative methods are to be provided.

(g) There is a list of approved substitute species in the event proposed species are not available.

(h) All plants should be supplied by the applicant themselves propagated in a purpose-built plant nursery on-site, to avoid pressure on local commercial wholesale/retail nurseries and compromise of plant supply to other projects, and to better manage propagation of difficult and specialist species.

(i) There is provision of an enduring legally enforceable mechanism to ensure the vegetation and land is appropriately managed in perpetuity to ensure the benefits are not lost over time, and to ensure adequate resourcing of all measures in perpetuity (covering on-going land and vegetation management activity such as fencing, pest control, replanting etc).

CONCLUSIONS

177. The BOGP would be an unprecedented large-scale industrial land use imposed on a rural landscape shaped by pastoral farming, viticulture, horticulture and nature conservation activities. The majority of the project would be located within the ONL of the Dunstan Mountains, and a portion would be within the SAL of the Bendigo Terrace. Inevitably during the operational and early closure stages (Year 1-17 approximately) there would be significant adverse effects on landscape character, quality and values.

178. The landscape character of the central western part of the Dunstan Mountains would be significantly altered with adverse effects on natural character, visual coherence, legibility and openness. Whilst the range as a whole would retain a high degree of natural character the central western part would have a low degree of natural character, too low to support ONL status. The natural character of the basin floor would not be altered from a degree of low natural character. A number of inconsistent landscape elements would be introduced into the rangeland during mining, and some characteristic elements would be permanently removed such as heritage elements. Basin floor elements would be more consistent however density of built form and levels of activity including a substantial increase in traffic would be uncharacteristic.

179. There would be a range of moderate to high adverse effects on the values of the ONL, with two very high adverse effects relating to loss of historic heritage per se and the uplift of the Bendigo RAS covenant removing protection of significant ecological, landscape, heritage and recreational values. The outstanding nature of the landscape would not be maintained, as a number of its values would not be maintained. The ONL would not be protected from the adverse effects of the proposed activity. The BOGP is therefore an inappropriate activity.

180. The values of the SAL would be largely maintained however rural landscape amenity values in the broader sense of the Bendigo-Tarras basin would not be maintained or enhanced. Notwithstanding the adverse effects on the ONL as a major part of this

landscape, this includes adverse effects on dark sky, and rural levels of quiet and tranquillity. Openness/open space would also be adversely affected to a moderate degree by the intensity of built form, presence of worker accommodation and levels of activity and traffic on the basin floor.

181. Backcountry experiences close to and within the Site would inevitably and irreversibly be adversely affected to a high degree, very high from some locations. The proposed new Ardgour Rise Road would not be a like-for-like experience or be of equivalent value as it would lack the particular qualities and experience of the existing Thomson Gorge road. It is a substitute of lesser quality.

182. There would be inevitably very high adverse effects on streams and wetlands and their margins during operations but this would most likely reduce to Low-moderate to Low in the longer term with rehabilitation.

183. Post-closure, adverse effects would remain. There would be a lasting significant adverse effect on the values of the ONL largely due to the persistence of large discordant landforms and the permanent loss of significant heritage and recreation/backcountry values, and potentially significant ecological values. The open and natural character of the ranges, and of skyline, ridgelines and prominent hillsides would not be maintained. There would be lasting effects on backcountry and recreational experiences including the permanent loss of the unique experience of Thomson Gorge Road and the permanent loss of opportunity for a high-value loop recreational trail. Whilst effects on the SAL of Bendigo Terrace would be Very Low on closure, due to all the above effects there would be a lasting High adverse effect on the landscape of the Bendigo-Tarras basin.

184. The BM assessment has under-assessed the range and magnitude of adverse landscape effects in my opinion and some effects have not been recognised and assessed. The analysis and evaluation of the context landscape and the Site has not been as thorough as expected for a project of this scale, complexity and magnitude of potential landscape effects. Based on my landscape analysis and evaluation and assessment of effects they would be adverse to a Moderate to Very High degree rather than Moderate to Low-Moderate. Only within the basin floor areas would longer term effects reduce to be close to Neutral (Very Low in my opinion due to power line remaining).

185. The ability to off-set and compensate residual significant adverse landscape effects is heavily reliant on the success of the re-vegetation, over a period of 35 years or more. Based on the ecological evidence discussed above, there is considerable uncertainty and doubt around the feasibility and effectiveness of these measures. The off-setting also appears to include values that are already present, being naturally regenerating shrublands, high ecological values within the DDF, and high landscape value within the

Bendigo covenant area including the Thomson Gorge Road experience. There is no methodology for assessing the equitability of off-setting and compensation for residual adverse landscape effects. Such a methodology would need to take into account the full range of lasting adverse effects across the biophysical, perceptual and associative dimensions of landscape.