

Submission Cover Sheet

Fingerboards Mineral Sands Project Inquiry and Advisory
Committee - EES

268

Request to be heard?: Yes

Full Name: Lyn Johnston

Organisation:

Affected property: [REDACTED]

Attachment 1: Part_2_of_4_L_Jo

Attachment 2: Part_3_of_4_L_Jo

Attachment 3: Part_4_of_4_L_Jo

Comments: My submission has four attachments I have sent (3) parts now listed as : Part 2 of 4 , Part 3 of 4 , Part 4 of 4 . Because of the size of the first document (Part 1 of 4) I will send Part 1 of 4 seperately. Please confirm that you have received all four attachments I have previously sent the other 3 sections of my submission this is Part 1 of 4 to include with them (due to size had to split the documents)



Submission into the
EES assessment for
the proposed

Mineral Sands Mine

at

Glenaladale

L Johnston

The Milky Way close to the Horizon at Glenaladale 2020

A sense of Place - developed through experience and knowledge of an area - its history, geography, culture, geology, its flora, fauna, legends, intrinsic natural environment, countryside, ambience, a sense of identity and security. Leaving a legacy that will far outlast our existence on earth - we are custodians of this land.

Contents

Air Quality	4
Agriculture	6
Amenity and why we live where we live.....	11
Biodiversity	12
Biosecurity.....	12
Bond.....	13
Climate Change.....	14
Community Consultation	15
Community cohesion	17
Connection to and use of the land.....	17
Cultural Heritage.....	18
Ecology.....	21
Economic.....	Error! Bookmark not defined.
Employment.....	Error! Bookmark not defined.
Environment.....	Error! Bookmark not defined.
EES process	Error! Bookmark not defined.
Fauna.....	Error! Bookmark not defined.
Fire	Error! Bookmark not defined.
Food production.....	Error! Bookmark not defined.
Floods.....	Error! Bookmark not defined.
Flocculants	Error! Bookmark not defined.
Greenhouse Gases	Error! Bookmark not defined.
Ground water extraction	Error! Bookmark not defined.
Haul road.....	Error! Bookmark not defined.
Hazards.....	Error! Bookmark not defined.
Health.....	Error! Bookmark not defined.
Horticulture on the Lindenow Valley	Error! Bookmark not defined.
Landowners.....	Error! Bookmark not defined.
Land use on the project area	Error! Bookmark not defined.
Landscape	Error! Bookmark not defined.
Legislative.....	Error! Bookmark not defined.
Mitchell River	Error! Bookmark not defined.
Mining processes	Error! Bookmark not defined.
Noise	Error! Bookmark not defined.
Offsets.....	Error! Bookmark not defined.
Other mines	Error! Bookmark not defined.
Perry River.....	Error! Bookmark not defined.
Planning scheme	Error! Bookmark not defined.

Radiation	Error! Bookmark not defined.
Rare earths	Error! Bookmark not defined.
Recycling	Error! Bookmark not defined.
Rehabilitation	Error! Bookmark not defined.
Removal of vegetation	Error! Bookmark not defined.
River systems	Error! Bookmark not defined.
Road diversions	Error! Bookmark not defined.
Sensory receptors	Error! Bookmark not defined.
Socio Economic	Error! Bookmark not defined.
Stakeholder / Community engagement.....	Error! Bookmark not defined.
Surface water capture/extraction.....	Error! Bookmark not defined.
Sustainability	Error! Bookmark not defined.
Tailings dam	Error! Bookmark not defined.
Tourism	Error! Bookmark not defined.
Traffic	Error! Bookmark not defined.
Water supplies (Household)	Error! Bookmark not defined.
Weather	Error! Bookmark not defined.
What if scenarios	Error! Bookmark not defined.

The extent to which the variability and uncertainty (quantitative and qualitative) assessments of the proposal through the EES document is lacking. The measures, methods, and evaluation of impacts on the environment, public and for the posthumous future is inadequate. The data and analyses used to compile the EES document lacks clarity and completeness and the proposal should not be considered. It is on these grounds I strongly oppose the mine along with other reasons outlined in my submission.

Being an impacted landowner, resident, community member and part of a family who have nurtured this land for four generations and who's future generations intend to continue this tradition. I am submitting this application because I do not intend to leave a long-term legacy for future generations because I did not question the impacts this mine could have on our environment and the Communities future.

Air Quality

The proposed environmental values for air are:

<p>The values, indicators and objective are adopted from the current SEPP (Ambient Air Quality), and SEPP (Air Quality Management)</p>	<p>Existing residents, animals, wildlife, tourists, recreational users, workers and our future generations should be protected from poor air quality by a proposal that has the potential to have direct, significant and long term demise on the air quality from what currently exists.</p>
<p>Life, health, and well-being of humans</p>	<p>Fine particles of dust pose serious health risks, including skin, eye, and lung irritations. Dust is especially hazardous when inhaled as it can contribute to a range of severe lung diseases including black lung or asbestosis, some dusts are carcinogenic. The EES identified household water tanks will collect 6.1kg of dust sediment per year per in 10,000 litres, this volume will increase in the tanks exponentially requiring them to be cleaned out regularly which is an onerous task requiring replacing the existing water supply. – most residents who are on tank water have no other form of water supply. Every human has the right to clean, fresh, clean air and water.</p>
<p>Life, health, and well-being of other forms of life, including the protection of ecosystems and biodiversity</p>	<p>Compromised air quality will impact on the photosynthesis of plants and certain other organisms within and adjoining the project.</p> <p>As noted by the proponent in the EES (9.47) <i>...."health of vegetation can be affected by settling dust, including from heavy metals , limiting photosynthesis and plant growth, dust settling near waterbodies where runoff is likely to occur (stream banks and riparian zones) reduces water quality, impacting on fauna species using these habitats"...</i></p> <p>The ecosystems and biodiversity should be protected</p>
<p>Local amenity and aesthetic enjoyment</p>	<p>Clear, open skies and vista views are enjoyed – the mine emanating dust, impairing vision, hazing the skyline is not acceptable. With only 2 water trucks allocated for the proposed mine site and the requirement to only water the haul roads, given the 360ha size of the open void at one time, plus rehabilitation areas in progress, site facilities and stand down areas this is grossly insufficient.</p>
<p>Visibility</p>	<p>Visibility (particle concentration reducing visibility) is the primary means by which a Community judges whether air quality is acceptable. Impact on human's health,</p>

	decrease in number of visitors to area, loss of views and landscape value. Dust decreases overall visibility, around the mine site creating slip, trip and fall hazards.
The useful life and aesthetic appearance of buildings, structures, property, and materials	Some materials phosphates, fertiliser and cement produce dust that has heightened explosive risk – the Public are not assured of what will be constituted or entrapped within the dust compounds. Earth bunds will be constructed around sensory receptors and as visual bunds to screen visibility, most of these bunds are only there for a short period of time before they are relocated to other areas and will not be covered to prevent dust – the dust emanating from these structures will be unmanageable.
Climate systems that are consistent with human development, the life, health and well-being of humans and the protection of ecosystems and biodiversity.	Because the mine site is on an elevated plateau above the vegetable growing area, adjoining livestock producers, dairying and where people live the volume of dust emanating from the mine site cannot be managed

Dust

EES 9.11.3.1” *Concerns were raised by adjacent landholders regarding the potential for livestock production to be impacted by dust emissions. Regulatory standards and guidelines to assess potential dust deposition impacts on livestock production do not current exist. an example ofoperating mines elsewhere indicated that the presence of coal mines do not affect the palatability of feed when coal mine dust was present at a level equivalent to 4,000mg/MS day “ - indicates to me that if you can’t measure it in the anticipated mine project you can’t manage it – animals will not eat fowled pastures. Coal dust/ fly ash is used as a fertiliser on pastures.*

It has been beneficial for the proponent to purchase land within the mine footprint particularly residences, this lessens the reporting requirements of SEPP risks by eliminating (occupied) residences – therefore becoming a rural environment, allowing the level 2 assessments (rather than a level 1) because of the number of residences within 500 metres of the mined area.

With the proponent stating that it will be difficult to determine the source of contaminants between natural exposure and anthropogenic source – residents, horticultural growers, etc will be impacted with the dust contamination with no recourse.



Photo source – Johnston collection

In 2019 ash sediment from the Dargo fires impacted houses in the Fernbank, Forge Creek, and Clifton Creek areas, requiring residential household water supplies to be reinstated with clean drinking water and cleaning of tanks facilitated by the local shire and DELWP. If the household water supplies are impacted because of the dust from the mine would the mine operator be required to do the same? Chris Cook – Kalbar advised ... *“Our latest water balance has our average dust suppression at 370ML/p.a.”* - **do you think that is adequate?**



IMG_7947.3gp

Dust emanating from paddocks directly below project area in a northerly direction

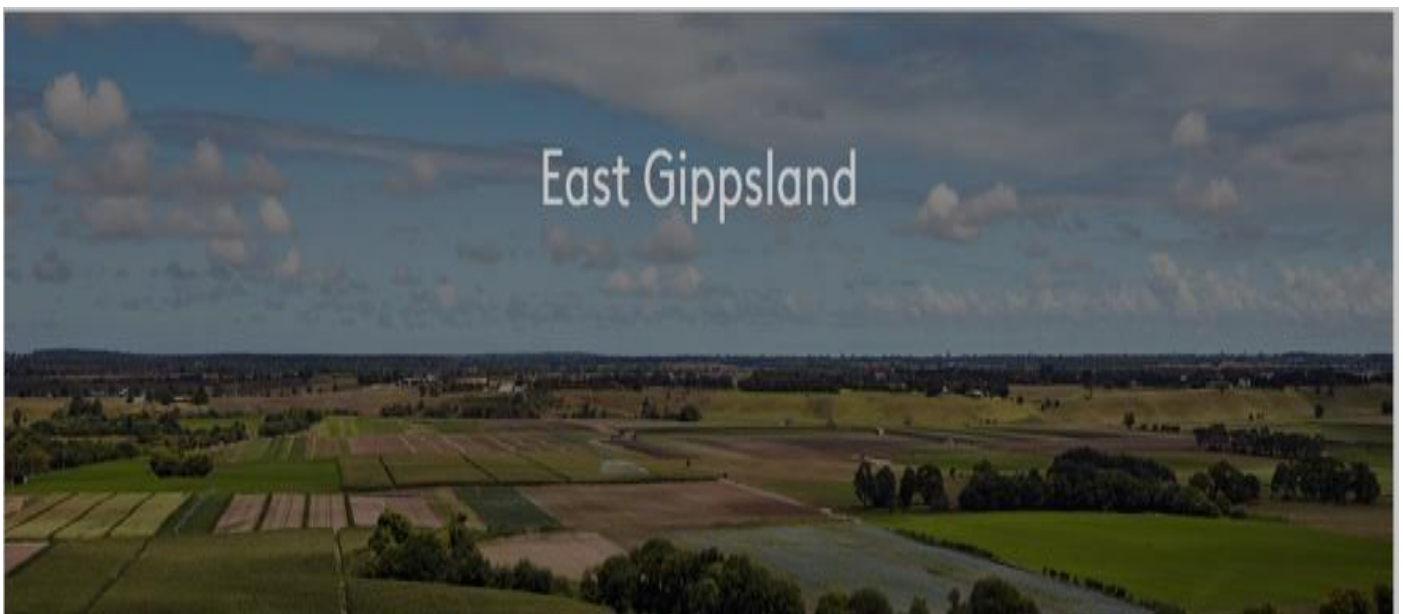
Photo source – Johnston collection

Respiratory studies should be done on residences before, during and after mining.

The proponent and consultants have a high level of confidence the heavy ore will not become airborne because of its size, their dust forming fraction modelling is inadequate because of the metrologically conditions were only conducted over 12 months period (with the monitors not working for a considerable period of time – 22%). The EPA’s minimum requirement for monitoring stations was at least one per project – the proponent did just that – only one – with the size of the project area 167ha and the project sited on an elevated plateau more stations they should have been required to give a more accurate assessment of the wind directions, speed, velocity and atmospheric conditions.

Agriculture

Agricultural products utilise the principals of **Sustainability - Meeting the needs of the present without compromising the ability of future generations to meet theirs. The three main pillars to sustainability are economic, environmental, and social.**



Agriculture plays a significant role in the economy of East Gippsland and continues to exhibit growth in the livestock production, horticulture, and dairying sectors. Primary produce from East

Gippsland supports a significant local and regional food processing sector. Horticulture is a particularly strong industry that generates significant value from a small footprint and supports several local and regional processors. Increase in the size of farms and businesses scale is such that farms are getting larger and increasing production per unit area, to continue to grow and accommodate these industry trends, it needs access to affordable land in parcel sizes suited to contemporary agricultural management practices, fragmentation of land is a significant inhibitor of agricultural industry growth and should be avoided through supported Planning policy.

The Lindenow Valley and adjoining farmland has been identified in the Local Government Planning policy as land of strategic significance being highly productive.



Site of proposed mine – this agricultural land - producing food and fibre should have been exempted also.

DeclarationSection 7.... Mitchell River floodplain exempted from mining



Mine area to the rear of photo – on an elevated plateau above the horticultural area, incorporates gullies which feed into the Mitchell River.

During the National Press Club of Australia presentation in May 2019, David Littleproud - Australian Agriculture Minister stated ... “Australia with a population of 25million produces enough food for 75m people”

Can the Mine coexisting with agriculture?

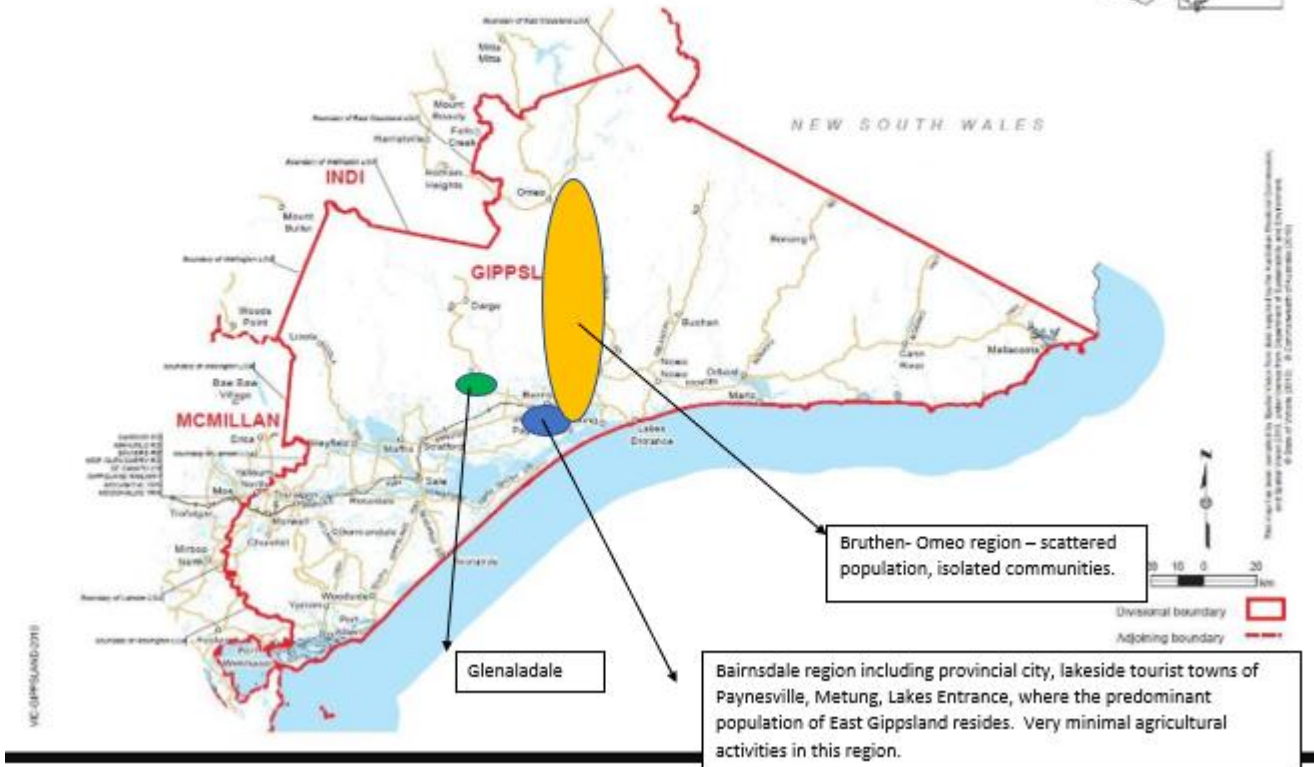


https://www.abc.net.au/news/rural/2014-12-17/gippsland-farmers-dubious-about-co-existence-with-mining-project/5972546?utm_source=abc_news&utm_medium=content_shared&utm_content=mail&utm_campaign=abc_news

The proponent would like to have us think that mining can co-exist with agriculture but the examples of an avocado tree farm adjoining a mineral sands mine in Western Australian is not very convincing – avocados have hard outer skins unlike vegetables which will have to grow in dust infested conditions and the livestock grazing on dust laden pastures and drinking fouled water supplies. The impact of dust on animals and the pastures they eat, construction of 19 surface water dams on the watershed catchment of the project area and the adjoining requested “specific control area” , taking all surface water flows need for livestock water, and pasture growth, impacts of noise, vibration, lighting and inability to move animals from one paddock to another will make co-existing with a mine **impossible**.

1.3 Study area Local Agriculture region P9 of 57

This the area used to characterise the local agricultural industry. This area corresponds to the combined Australian Bureau of Statistics (ABS) “SA2” areas of “Bairnsdale “and “Bruthen-Omeo” (Figure3) SA2 areas aim to represents a community that interacts together socially and economically.



Comparison of the Glenaladale area to Bairnsdale and Bruthen-Omeo agricultural area shows no parallel, the other areas have different population density, facilities, infrastructure, elevation, land capabilities, topography, rivers, and public transport services.

Glenaladale is located close to the major rural town of Bairnsdale which provides, livestock exchange selling facility, commutable distances, vegetable processing factories, transport network, veterinary providers, DELWP offices, Government offices, offering more support services for agriculture production.





Dairy farming adjoining mine site

Clause 14.01-1S: Protection of Agricultural Land

The project area footprint is approximately 1,675 ha. At full operation it is expected that, at any given time, the area disturbed within the project area will be up to 360 ha and incorporate the active mining area, tailings disposal areas, and infrastructure. An additional area will be out of production for up to a further two years while crops develop to full production. The total area out of agricultural production at any time will average 443 ha with a maximum of 569 ha. The project life is expected to be 20 years including approximately two years for construction and commissioning. It is expected that any one area of land that is mined will be out of agricultural production for a period of 3 - 5 years. That is, at full mine production at any one time up to 569 ha of land will be withdrawn from agricultural production for up to 5 years (due to mining activities). This includes the approximate area occupied by project infrastructure such as the initial fine tailings storage facility, processing infrastructure, maintenance infrastructure, water storage dams, topsoil storage and site based services arterials which will remain in place for up to 20 years. Land used for accommodating mining infrastructure during the nominal design life of the project will be rehabilitated after the infrastructure is decommissioned and returned to agricultural production or preferred land use as described in the rehabilitation chapter of the EES and the Draft Mine Rehabilitation and Closure Plan (Kalbar 2019).



kalbars
rehabilitation plan in

I question the proponent's assessment of the area of land out of production at any given time during the life of the mine. They will be working $2 \times 60\text{ha} = 120\text{ha}$ of land each year but are only proposing to rehabilitate 80ha (Scenario 1) each year – also stating that they won't start to

rehabilitate until 3 years into the mine life (Scenario 2) . In the first scenario they will be 40ha short of reinstating in the first year. Following that through in the table until year 14 when they should have mined the entire 1675ha of the project area they will have only rehabilitated 1120ha leaving a shortfall at that point in time of 560ha (Scenario 1) or in Scenario 2 - 800ha not yet rehabilitated.

With return to former use of the land, in order for the rehabilitated land to become stable, viable and productive - it will need additional time frames in order to achieve this, soil profiles will need to be able to support vehicles, machinery, animals, fencing, dams and withstand seasonal variations.

The total net economic benefit of the project is estimated to be \$392.4 million in net present value terms and includes the direct provision of approximately 200 full-time jobs during operations (Economics 2019). The NPV estimation includes the estimated indirect loss of income due to the temporary displacement of agricultural land. Therefore, the amount of agricultural land temporarily removed from agricultural production for the purpose of mineral production is relatively minor in a local, regional, and national context.

Established horticultural production in the Lindenow exceeds \$200-m per annum, with potential to increase if more water was available – this production is renewable, sustainable, ongoing, expanding and economically viable - unlike a mine which is a one-off operation. The income from the displaced agricultural land mentioned has not been adequately assessed – rather than state the income earned off the impacted landholdings in their current uneconomic state and the proportion/percentage of properties impacted compared to the owners overall holding area, it would be a significantly higher figure. What would the net benefit to the region be in 5, 10 or 30 years – that should have been evaluated.

Amenity and why we live where we live

Consultants identified properties whose clientele or business could be impacted by the mine such as The Old School B & B at Fernbank but found them not to be impacted visually or by volume of noise emanating from the mine. The Old School B & B was established as the owner had ceased employment due to health issues, being ineligible to benefit from the Social Security payments the B & B was created to help supplement her income in addition to living off her accumulated superannuation from her lifetime of employment. Reduced patronage of this type of accommodation because of the mine for non-returning clients because of changes in the landscape, increased traffic, redirection of tourist roads, would minimise her income, hastening her path to the dole que is this what the Government and proponent are encouraging the local residents to do?

There are many reasons why people choose to live in this area the natural landscape, a quiet rural environment, health and lifestyle choices, connection to and use of the land and livelihoods, employment provided by local agricultural industries, commutable distances to major towns, supportive engaging community participation, panoramic views, clean clear air, beautiful clear skies not impede by illuminated light, scenic roads, low volumes of traffic. The proposed mine would diminish most of these desired attributes.

In the current COVID pandemic, people are choosing to shift to Country areas, with the projected increase in population by 2030 for the East Gippsland Shire of 28% and the Wellington Shire 16% this is a desirable place to live.



Biodiversity

The EES concluded “*that any significant increase to period of inundation (from mounding) is likely to impact on ecosystem health and potentially water quality*”... **however no apparent assessment of the implications of this aspect is included in the risk assessment and proposed management and mitigation measures.**



Biosecurity

Horticultural and livestock producers have strict biosecurity laws enforced by regulatory authorities, including compliance with:

- restricted property access requires regulatory wash down procedures
- Foreign vehicle movements from other contaminated areas exacerbate the concerns of i.e. soil borne diseases including anthrax, foot rot
- Introduction and spread of stock diseases such as Ovine Johne's disease, Trypanosomiasis – ticks
- Pathogens
- Introduction and spread of invasive weeds, particularly species declared as noxious within the region- lovegrass, boneseed, sodium apple
- Water borne contamination
- Introduction and spread of soil borne diseases such as *Phytophthora cinnamoni* (dieback).
- Pest animal control.

Food scares from contaminants in some overseas produced products are causing an increased awareness of food quality issues in international markets. This opens opportunities to promote Gippsland products that are from systems with high levels of integrity quality assurance programs and compliance. In domestic markets, there is a continuing growing interest for access to high quality and value - adding foods including local organic products and niche products.

In Balmoral (Western Victoria) following Iluka's suspended mining operations, where radioactive waste was placed in storage dams which spilled/leached into the ground water systems, there is now a vast area of over 100kms which cannot be built on or used for 100 years.



Lindenow Valley



Horticultural area

Bond

Bond setting consultation - The Act and regulations require ERR to consult with Councils and DELWP, as Crown land managers and identify rehabilitation costs and accurately value rehabilitation bonds. But most Council Officers do not have the technical skills to provide meaningful comments on rehabilitation bonds, ERR does not guide Councils on what they need to consider in the bond setting process and DELWP's regional officers are not presented with sufficient information on proposed rehabilitation works, potential environmental impact and related rehabilitation costs to allow them to properly contribute. Councils and DELWP are not able to provide meaningful input because of the lack of guidance and information.

Fires at the Hazelwood mine, 3 km to the south of Yallourn, demonstrate how failure to manage risks, either during or after operations, can result in enormous impacts on human health, the local economy, and the surrounding environment. This reinforces the need for continually updated long-term and sudden mine closure plans. Indeed, with the significant and interrelated social, environmental, technical, and financial risks associated with coalmine fires, the management of fires will become a key driver of mine closure design and completion indicators, adding complexity and cost to planning and implementation

The Hazelwood fire inquiry's estimated closure costs of A\$100 m for Hazelwood mine and associated power station, while AECOM estimated costs of A\$251 m for Hazelwood, A\$196 m for Loy Yang and A\$170 m for Yallourn if the sites were abandoned. This is much higher than the bonds set for Hazelwood (A\$15 m) and Loy Yang (A\$11.4 m).

Therefore, the rehabilitation bond levels need to be high enough to cover all contingencies including the possibility of sell off prior to the completion of mining, mines placed into care and maintenance, and environmental damage.



Mineral Sands mine at Balmoral Western Victoria

Climate Change

Impacts of climate change include:

- Warmer and drier climate – impacting on soil carbon levels, soil erosion risks, accelerated loss of nutrients, changes in land suitability for agriculture and increases in the occurrence of transient salinity. This will also result in a gradual change in the composition of vegetation communities as some species are replaced by those suited to a warmer, drier environment.
- Intense rainfall events, flooding, and erosion – impacting infrastructure, crops, livestock, and soil with higher rates of soil erosion and downstream impact of sediment deposition into Rivers, Gippsland Lakes and RAMSAR wetlands.
- Increase in both the frequency and intensity of bushfire – impacting on the distribution and composition of ecosystems, yield and quality of water from fire-affected catchments, security of plantation forest, emissions of greenhouse gases to the atmosphere and damage to property, livestock, crops homes and Communities.

Climate change is the cumulative result of multiple individual actions, environmental approval processes in Australia are largely configured to manage the risks and impacts created by

individual projects — they are not set up to manage cumulative impact. The proposed mine will exacerbate climate change with the vast void exposed areas open at one time, large consumption of greenhouse gases, huge volumes of water required to mine and process the ore.

Community Consultation

Of interest is the proponents Community Consultation process:

- 92 visits to the Bairnsdale Office – that is not many considering that our own visits probably accounted for 10% of that figure.
- Establishment of a Community Reference Group- an interesting concept, have they asked if the mine is approved if any of the Community intend to remain living or working in the area and would want to be involved in such a group? The Community has no faith, no trust in, and the proponent has no accountability shown towards the Communities concerns throughout this whole process. With a continual changing of Staff, no consistency of information given, or no engaging dialogue has been shown.
- Sharing of information – minimal information openly shared.
- Effective engagement – most of the Community information meetings where for the proponent to collect information from the public on what their concerns were so they could respond in to them in the EES – they were not forthcoming with what they were doing, what stages they were up to – preferring to state.... “it will be in covered in the EES”
- Did not engage openly with landowners – did not disclose to each landowner what their intentions were – you had to extract it out of them by questioning.
- Respect and discuss with Traditional owners the proposal – not adequately
- Identification of residences – underestimated the number of residences that would be impacted and did not identify the population in numbers residing within these residences.

Statement by the Chief Executive Officer

Kalbar Operations Pty Ltd (Kalbar) acknowledges the important environmental, cultural and economic values of the area surrounding the Fingerboards site and aims to protect and enhance those values.

The company also understands the importance of community engagement in the development, approval and delivery of major projects and the value of effective engagement in achieving mutually beneficial outcomes.

Good community engagement enables the sharing of information, open discussion of concerns and identification of solutions based on mutual understanding, honesty and respect. Good community engagement leads to better outcomes for projects and communities.

The company respects the rights held by private and public landowners and is committed to engaging openly and honestly with the community, listening to community concerns and responding appropriately to community feedback.

Kalbar seeks to be recognised as a valuable contributor to the community, respectful of all community views, and willing to engage, share information, and respond effectively to all community members and stakeholders.

Kalbar acknowledges the traditional owners of the land, the Gungal-Kumal people and pays respects to their elders past and present. Kalbar aims to work closely and collaboratively with traditional owners to maintain cultural association with the land and provide opportunities for involvement in, and benefit from the project.

Joseph Patarica
Chief Executive Officer

A hollow statement from the 4th CEO to the Community

Except from RMIT Recovery evaluation report 2017 following the Glenaladale fires (2014) noting Community unrest with emerging mine proposal

Glenaladale

The ingredients of resilience for Glenaladale were discussed and assessed at two different meetings, one in March 2016 and one in October 2016. There was a palpable feeling of camaraderie, positivity and support at the first meeting. However, by October 2016, the mineral sand mine had emerged as a very divisive issue in the community¹⁰. It had *"derailed the group and divided the community"* (Community member, Glenaladale, Oct 2016). There was not the same sense of positivity moving forward as there had been at the previous meeting.

Community cohesion

I suppose it is hard to explain to someone who does not live within a close-knit Community- the personal bonds that are held and maintained within it, the mateship, the looking after a mate in the good times and the bad times. Because services, infrastructure, and facilities in rural areas of Australia are not as well serviced or represented as they are in more populated areas.

My reflection goes back to the time when this Community was burnt out from a lightning strike that commenced in the adjoining National park and was not adequately monitored or extinguished by the authorities – this blaze took only two hours to reach Glenaladale and destroyed 3 homes, hundreds of livestock, buildings, countless kilometres of fencing and its repercussions are still being felt 6 years later- financially, emotionally and culturally.

Instances of the Glenaladale community's unspoken cohesion were apparent day after day during this stressful time. My husband who had been out all the previous day and night fighting the fire returned home and took me to help with the feeding of the cattle and to ascertain what would be our best options considering the impact on our farming operation - 84 animals dead, 250 round bales of hay burnt, cattle yards burnt, 15 kilometres of fencing destroyed.

Driving up to our property we met on the side of the road by the Glenaladale fire tanker on board where Rick who had lost his home, fences, animals, whose wife and daughter (doing her final Year 12 schooling) were somewhere in Bairnsdale looking for a place to stay for the night (and were taken in at the Rectory for refuge) and he was unable to contact them. But instead of attending to his own devastation he was helping others extinguish the fire and help. Peter was also on board the truck he had lost animals, shedding, fencing and the area was still on fire but wanted to help others (Peter is profoundly deaf – but did not let this impede his assistance as always).

I question if the same mateship would be available in a transit population associated in a mining community.

Connection to and use of the land

“The project is not in the public interest because it is contrary to the principles of ecologically sustainable development – namely inter-generational equity because the predicted economic benefits would accrue to the present generation but the long-term environmental, heritage and agricultural costs will be borne by the future generations. “

For anyone including a young farmer to establish themselves in primary production with the exorbitant costs associated with purchasing land, developing infrastructure and having enough financial backing to trade and become economically viable now days would be cost prohibiting for future farming generations – we need to encourage and promote our renewable, sustainable, environmentally conscience, long term, food producing industries.

Properties need to be developed, improved and expanded to establish a progressive, financially viable, long term farming system, expended considerable investment in developing infrastructure to provide adequate water storages, bores and irrigation systems to grow fodder and provide good water to bred and rare animals.

Farming families are usually intergeneration who continue to support the Community in which they live unlike a mine – with its transient workforce, creating potentially major problems for the

environment, demise of existing sustainable, renewable, viable enterprises' and causing fragmentation of Communities.

While this area is better known for the \$200m per annum vegetable production it also produces fine wool, wine, prime sheep, and cattle. Local sheep breeders have topped the wool market with their superfine fleeces, the region's growing wine producers are securing a reputation for the quality of their viticulture produced and there is an increasing food trail which showcases the clean, green, fresh produce of the Lindenow Valley.

The removal of existing established properties, who have diversified and improved their enterprises will see the diminished carrying capacity and return to viable farmland not in their lifetimes. The loss of income from their impacted properties raises the question what will the existing property owners do in the interim to earn a living?

Intergeneration equality including family heritage, inheritance, accumulated infrastructure planned over several generations, ensuring economic and social longevity will be removed and take several lifetimes to reinstate.

The proposed Kalbar Resources Mineral Sands Mine at Glenaladale causes the Community to question the mines long-term viability and enormous irreversible environmental concerns. They will only mine the resources while it is economically viable, choosing to suspend or cease operations and leaving the project in limbo including the maintenance, rehabilitation and impacts forced onto this Community.



Photo source Johnston collection

Cultural Heritage

The EES identified a significant number of Aboriginal artefacts in the area, scar trees, historical sites, cultural heritage sites and should have included the Aboriginal occupancy in the cave at the Glenaladale pumping station.

In a recent GLaWAC survey 81% of their members stated they did not want the mine on their traditional land. GLaWAC have a statutory responsibility to protect aboriginal cultural under the Act, and they have procedural rights on Crown Land. The impacted area is of significance to the first nations people – The Brabralung Clan who used this area as a major stop off point for indigenous people travelling from the high country to the lowlands in search of food.

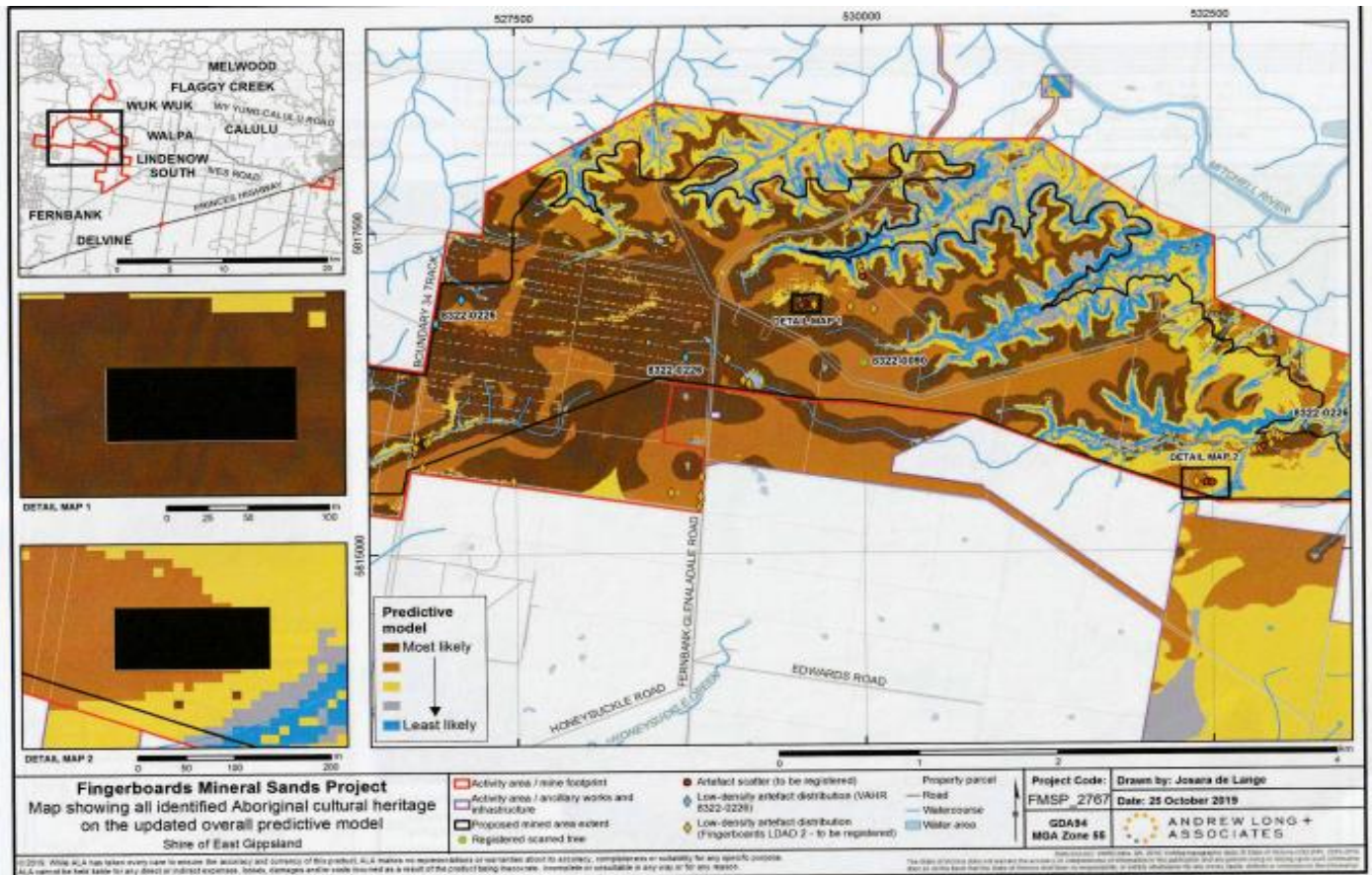
GLaWAC identified:

- The project area has changed several times and has not yet a defined area.
- Significant burial sites have been identified on the area – which have not been researched comprehensively enough

- “Totem species” which are incorporated in the water, air and “on country” will be impacted.
- Natural springs contained in the area will be destroyed
- Miners have disrespect to cultural heritage i.e. destruction of Caves by Rio Tinto.
- The proposal creates emotions/discomfort and is not in line with their “Whole of Country Plan”
- Desecration of significant sites – how will proponent replace?
- Concerned with disingenuous meetings with proponent

The proponent has not adequately discussed and interacted with the indigenous people, the GLaWAC Community feel the meetings have been disingenuous.

The presented map shows cultural heritage areas identified in the project area and adjoining landscape. Identify that the area has not been researched comprehensively enough.



Map 21: Updated overall predictive model classifications with known cultural heritage values. *Public redacted version



Identified cultural trees



Marker trees on property



Local Indigenous Cultural heritage

- This mine will destroy thousands of years of indigenous culture and heritage. Within this area there are scar trees, burial ground sites, scatter sites and indigenous food sources of our first nations indigenous people these will all disappear into the **mine void**.
- Gunai Kurnai people have a strong spiritual, physical, and cultural connection with their land - artefacts scatters found within proximity of project area. Gunai Kurnai aboriginal artefacts present in the region provide evidence of occupation located within or adjacent to project area
- East Gippsland draws proudly on our Aboriginal culture, knowledge, and heritage we cannot allow the Fingerboards area, a place of immense cultural and historic significance to become an open-cut mine.
- This area should be made into a memorial, not a mine
- The Den of Nargan near the proposed mine and processing plant is of great cultural and historical significance to the traditional owners Gunai/Kurnai tribe - the rich cultural history, including dream time stories, journeys, food gathering and community for these first inhabitants of Australia is significant.



Den of Nargan

Ecology

The ecological studies of the EES are disappointing, utilising too many desktop studies and not based on local knowledge (the Community lives and breathes this environment they have first-hand knowledge and it should have been taken into account) , there are species omitted, citizen scientists' views not considered, known nesting areas for owls/hawks, and siting of Latham snipe within the area.



Putting life back
into the Mitchell.do



Anglers have concerns over the environmental effects De silting will have on the health of the river systems particularly concerned about the effects the increased water turbidity may have on both trout and native species ability to spawn and reproduce. The quantity and nature of sediment will vary depending on rainfall patterns and catchment condition, natural erosion processes but will be exacerbated with the impact of the mine project.

Suggestions to:

- prepare a De-Silting Management Plan (DMP) which is to be approved by the minister and reviewed the DMP every 5 years and annually review its de-silting activities through establishment of a De-Silting Working Group
- Review results of turbidity readings taken as part of the water quality monitoring program
- Establish an aquatic monitoring program
- water quality monitoring program which measures concentrations of suspended solids and turbidity at selected sites upstream and downstream of the mine, along with widespread macro-invertebrate surveying

- Establishment of an NTU turbidity 'trigger' level at the high impact desilting sites (directly below mined area). When readings hit ...? NTU the following actions are taken to reduce turbidity levels:
 - Cessation of activities within the mine which resulted in the higher readings (i.e. screen cleaning, earthmoving equipment moving sediment)
 - Reducing downstream discharges of highly turbid water
 - Installation of an automatic turbidity monitoring site measuring turbidity levels at 15-minute intervals all year round
 - Turbidity levels are taken at 'control' and 'impact' sites.

It is how the proponent manages these impacts that ultimately determines the health of the river and the longevity and sustainability of this fishery.

Append A018 Page vi

Economic modelling predicts that if the project is approved, gross state product will peak at \$375 million higher in 2022 compared to if the project is not approved. Real gross state income for Victoria is projected to peak at \$246 million and employment at 189 full time equivalent in 2022.

Consideration should have been given to the potential negative environmental impacts the mine will inflict, the inevitable downturn in commodity prices and the supply and demand for the product in the future with other mineral sands mines coming into production.

There is generally a low level of economic stimulus from mining due to the prevalence of non-resident workers. The creation of mostly temporary jobs bringing low stability of jobs within the workforce, creating volatile employment due to the dependency on minerals prices.

There will be expected rising accommodation costs and housing availability for workers and other residents.

There is a multitude of formulae to calculate economic benefit however most are based on immediate and/or short-term durations and typically do not include hidden costs such as impacts with long latency periods and lost alternate industry opportunity costs. Therefore, the economic benefit evaluation should be determined over a defined period of at least 50 years from commencement of mining to factor in hidden costs. Further economic analysis and assessment should include a comparison between 2 scenarios on economic benefits.

The EES lacks adequate identification of the known minerals that will be mined, their yield (including a comparison to stocks already held in Australia and overseas countries in which the proponent hopes to on sell), market trends, and commodity prices to determine whether it is economically viable. The Benambra copper mine for instance only operated for 4 years and left the Government with Millions of dollars for costs in the immediate remedial work required and untold costs for the ongoing rehabilitation for the ensuing future.

The assessment concludes that the project has to potential to generate impacts and opportunities for residents adjacent to the project area , residents of the surrounding settlements and people working in or travelling through the project area and living in the broader landscape.

It is noted the increasing age of current residents, their physical ability, their psychological health with the impact of the ensuing mine, seeing their land degraded, destroyed infrastructure, assets removed, nurtured land annihilated and not acknowledged by proponents and employees how will the proponent ameliorate these impacts?

The mining sector's economic contribution does not include costs that are paid out of State revenue such as:

- specific infrastructure including roads that are purpose-built for their heavy vehicles
- tax breaks that are not available to other sectors
- incredibly low royalty payments

“The House of Representatives Standing Committee on Industry, Innovation, Science and Resources (2018, pp. 30–31) stated that many regional communities are not getting their fair share of the wealth generated from the resources sector” – what is the proponents evidence that the benefits will be delivered back to this region?

“The Federal Government advocate through the Council of Australian Governments for states and territories with significant mining and resources sectors to adopt ‘Royalties for Regions’- type programs, which guarantee a share of royalties from resource extraction are reinvested in regional areas, especially those directly impacted by mining”. Will the locals see any benefits?

The economics report reiterating that it does not make economic sense and questioning if there is something else besides mineral sands or rare earths to mine that they are not divulging.

3.2 Mineral production

In 2018-19, 56 mining and prospecting licences reported production with a value of \$1,046.9 million.

Table 3.2.1 Mineral production by financial year

Financial Year	Gold* (ounce)	Antimony (tonne)	Zircon (tonne)	Rutile (tonne)	Ilmenite (tonne)	Feldspar (tonne)	Coal (1,000 tonnes)	Gypsum (m ³)	Kaolin and Clay (tonne)
2012-13	225,776	4,558	86,243	140,842	67,067	61,578	59,854	499,681	204,164
2013-14	225,168	5,336	128,064	243,355	563,371	44,254	58,001	454,526	167,333
2014-15	198,387	3,684	77,162	85,983	383,369	40,232	60,957	335,374	152,047
2015-16	256,653	5,945	52,026	90,318	57,763	30,730	59,757	314,759	202,229
2016-17	312,229	5,138	45,597	73,812	44,944	0	56,095	282,720	192,150
2017-18	364,294	2,570	27,515	48,381	24,390	0	45,062	399,569	171,932
2018-19	567,501	2,016	0	0	0	0	42,256	291,842	114,050

Source: DJPR, statutory returns under the MRSDA.

*Gold reported in troy ounces, coal in thousand tonnes, gypsum in cubic meters and the remainder in tonnes.

The above table shows declining production figures – I would question if the proposal should really be considered at all.

Under the MRSDAct mining is excluded from paying rates – this will be a shortfall in revenue at the local Government level which will be expected to pay for ongoing maintenance of roads, municipal services etc. current landowners do pay rates and municipal charges. Agricultural Victoria survey states of the 523 farms in East Gippsland Shire they contribute over \$5m in rates at an average of \$10,000- per farm.



Bairnsdale cows and calves sell to a v

Stock and Land newspaper reports animals at recent sale made \$3,060- a head or the equivalent of 500 cents per kilogram – compared to the price of mineral sands

If the 1675ha or project area was producing livestock that would equate to \$3,765,000 gross over the 25 year mine life. Livestock producing is renewable, sustainable, long term, environmentally compatible and produces a commodity that is in short supply.

The table below shows diminishing sales figures for the resource to be mined

Table 2.12 Mineral production sales values (A\$ million)

Year	Coal*	Gold	Antimony	Mineral Sands (Zircon, Rutile, Ilmenite)	Industrial Minerals (Feldspar, Gypsum, Kaolin & fine clay)	Others (including silver, peat and quartz)	Total
2012-13	N/A	\$333.1	\$30.8	\$282.7	\$12.8	\$0.3	\$659.7
2013-14	N/A	\$303.4	\$12.5	\$316.5	\$14.1	\$0.2	\$646.7
2014-15	N/A	\$286.9	\$37.8	\$185.1	\$10.2	\$0.1	\$520.1
2015-16	N/A	\$411.4	\$30.6	\$175.9	\$10.0	\$0.6	\$628.5
2016-17	N/A	\$519.8	\$33.6	\$188.5	\$8.0	\$0.2	\$750.1
2017-18 [^]	N/A	\$613.3	\$28.2	\$172.6	\$11.6	\$0.2	\$825.9
Change year-on-year (%)	N/A	18.0%	-16.1%	-8.4%	45.0%	0.0%	10.1%

Source: DJPR, statutory returns under the MRSDA.

*No unit value is assigned to coal for the purposes of determining its production value. Coal is almost entirely used for electricity production and is largely an internal transfer within mining/generation entities. As such, there is no available market price for coal.

[^]Data as at 17/12/2018 from Expenditure & Activity Reports on Mining and Prospecting licences received from the industry (84%).

During the COVID pandemic China has put trade restrictions on Australian imports these repercussions will impact producers of grain, wheat, beef, lamb, wool – the same could happen with minerals.

Compensation must be paid to any farming family for the effects of damage to their property, their loss of lifestyle and prospects, and the destruction of their right to the quiet enjoyment of the land they bought, pay rates and taxes on and love. It is inevitable that the ultimate costs of ignoring basic standards of equity and fairness for farming families will far outweigh any short-term royalties paid by mining companies.

Of note is that compensation is only considered for a 3-year timeframe – no consideration to latency times of potential problems that will evolve over time or not apparent at the closure period.

The EES does not identify the impact on affected landowners who use this land to generate cash flow and business income from their properties and what alternative incomes are remediated or offered.

Employment

The proponent states mine workers will earn higher income, receive training, acquire new skills, and experience earning an average \$101,882 per annum compared to local wage \$49,543-.

But the impact of the mine on local employment threatens many more jobs that are also sustainable in local agriculture and tourism than the few by comparison mostly short-term contractual jobs generated by a mine.

It is likely that a company will take over Kalbar before mining operations begin (most likely Chinese - Kalbar has already employed a position of "VP" in China); if it is a Chinese company, experience in the Pacific region has shown that they bring their own workers so there would be few jobs for locals (which Kalbar defines as being within driving distance such as the Latrobe Valley).

Environment

The social and economic benefits of the project as currently proposed are likely outweighed by the magnitude of impacts to the environment.

Environment effects include direct, indirect, combined, consequential, short, and long term, beneficial and adverse effects

Under International environmental conventions – will the mine violate our obligations to fulfill commitments towards migratory species within the area?

Will the required vegetation offsets fulfill the environmental obligations under the matters of national environmental significance?

Will the vegetation that is replaced with small trees support fauna that utilise hollow bearing logs?

The estimated greenhouse gas emission (carbon dioxide equivalent) for the excavation and processing of this mine is 200,000 metric tons that is equivalent to 490,196,078 miles driven by a passenger vehicle.

Planning should protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species, and genetic diversity) and conserve areas with identified environmental and landscape values. Planning must implement environmental principles for ecologically sustainable development that have been established by international and national agreements. Foremost amongst the national agreements is the Intergovernmental Agreement on the Environment, which sets out key principles for environmental policy in Australia. Other agreements include the National Strategy for Ecologically Sustainable Development, National Greenhouse Strategy, the National Water Quality Management Strategy, the National Strategy for the Conservation of Australia's Biological Diversity, the National Forest Policy Statement and National Environment Protection Measures. Planning should protect, restore, and enhance sites and features of nature conservation, biodiversity, geological or landscape value.



Mining through shallow groundwater streams and damming gullies will restrict discharge to streams and rivers. Uncontrolled release of water containing elevated sedimentation, releasing radionuclides, contaminants and pollutants into Creeks and Rivers.

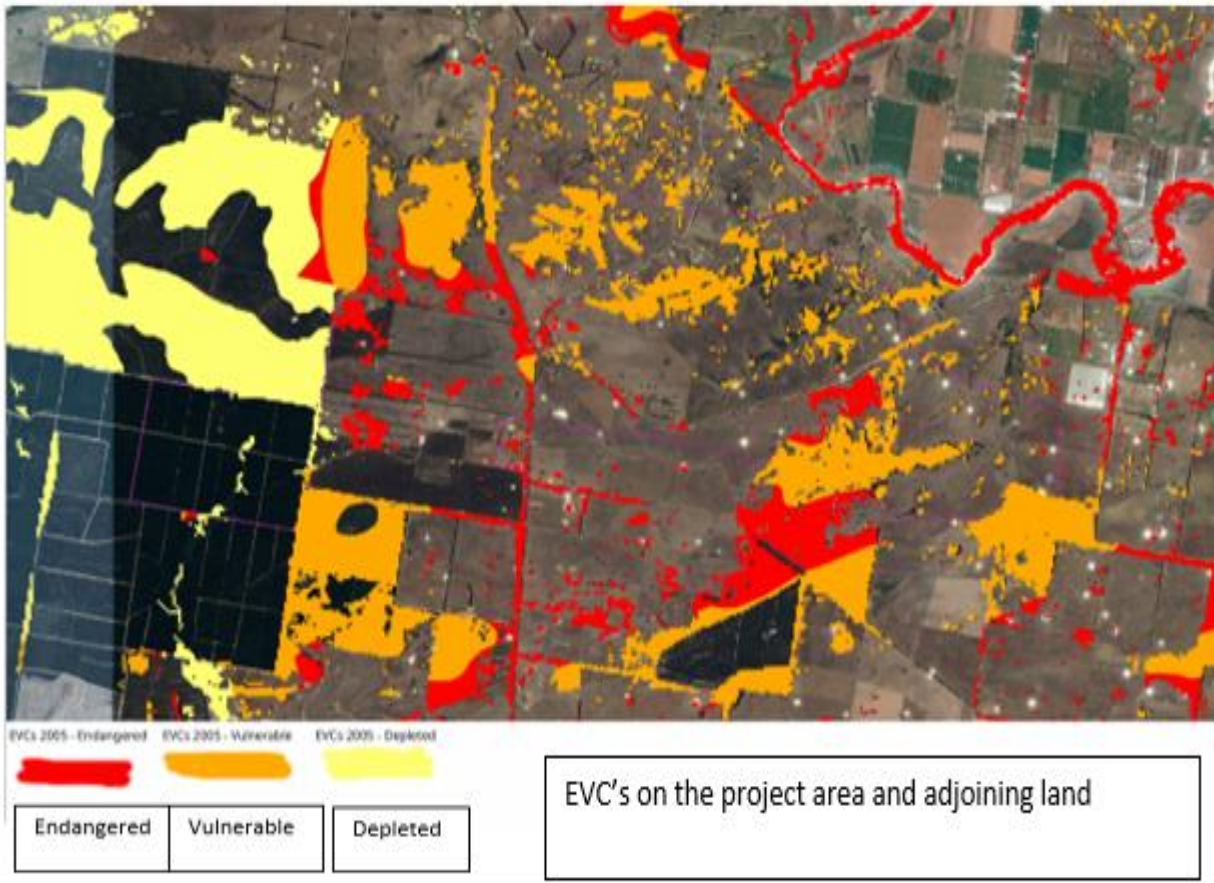
Consideration when reforming soil profiles should prevent tunnel erosion, acid sulphate soils, acid/metalliferous drainage, salinity, and landform instability.

Requirements contained in the State Environment Protection Policy (SEPP) Waters of Victoria and the Environment Protection Act 1970, have regard to the water quality of receiving waters. Of heightened concern is:

- Mines management practices for disturbed areas to prevent sediment movement into water courses and wetlands (including seepage of contaminated waters from stored materials and tailings dams into drainage lines)
- Potential for acid sulphate soils to be disturbed during mining, and management practices to prevent impacts on water courses and wetlands
- Potential for contaminated soils to be disturbed during mining and management practices to prevent impacts on water courses and wetlands
- Potential for landslip and erosion
- Contingencies for failure of control measures, such as during heavy rainfall or flooding

Ecological processes influencing the Gippsland Lakes systems include riverine flows of freshwater, groundwater inflows and marine inflows. These processes control the variable salinity regime across the Gippsland Lakes and have shaped the ecological patterns and processes, other threats include altered hydrology, invasive species, and water pollution (nutrients and sediments).

The Community requests regular reporting that describes compliance and enforcement activities in ways that are accessible to the public, and communication or serious contraventions and how they have been dealt with, would improve accountability, and build trust in the system.



Chain of ponds Perry River system



Lindenow Valley

EES process

A further flaw in the mining approvals process is that the Technical Reference Group (TRG) does not necessarily include expertise relevant to the project. For example, regarding the proposed mineral sands mine at Glenaladale, there are no representatives from horticulture, agriculture, hydrology, geology, climatology, tourism, the Chief Medical Officer, or a soils scientist. Dependence upon reports from experts is based on the flawed assumption that the readers will understand the concepts. How can the TRG make appropriate decisions when significant, relevant expertise is excluded from the process?

The EES process is essentially a risk-based impact assessment – the two methods of assessment used in the EES are compliance assessment and risk assessment. Compliance assessment is

based on EPA guidelines and a qualitative risk assessment has been used where compliance criteria are unavailable or inappropriate for the assessment of impacts. In a qualitative assessment, the risk of environmental and socioeconomic harm is assessed/evaluated using a combination of likelihood and consequence.

Failed Community consultation with the EES and EES document

- I am appalled at the poor quality of the maps i.e. omission of the Mitchell River, fuzzy unclear maps showing blue, green brown colours to an outsider that might suffice but to a local who knows the Creeks, watercourses, roads, tree vegetation, shape of the paddocks, towns/settlements they are not adequate.
- The pages of the EES which are upside down, printed too small to read.
- Whoever approved the adequacy and details of the submitted document.
- The proponent always chanted “it will be in the EES”, but we expected better.
- Unacceptable risk Attachment 1 2.5 unreadable
- Lack of surface water monitoring within proposed mine footprint.
- Volume of water being managed within the mine site if any significant impact to change the mine plan occurred there is no assessment on how the impact would be handled.
- Impacts (Mounding) on ecosystem health attachment 1 water independent review end of 2
- What is the volume/capacity of each of the 20 freshwater dams?
- What right do they have to take/harvest surface water from other people’s land? They need to justify their need over other’s needs.
- With the submission of the EES the proponent is given another opportunity to vet the concerns raised by the public so they can ameliorate and present at the panel hearing

Three independent studies were requested by the authorities including the local council who deemed them important enough to have them independently reviewed – these 3 specific subjects – rehabilitation, water, air quality - should have been discussed openly to the whole Community not individually at the meeting (only one or two people allowed at the tables to discuss with the proponent)

Fauna



Beehives in Limpyers Lane adjoining the project area beside where the processing plant will be located.

Photo source Johnston Collection

Desk top assessment was widely used in the assessment of the EES. The Victorian Biodiversity Atlas which is often relied on for data and monitoring purposes is often not updated and the records must have scientific verification.

The status of most species, not just threatened species, remains unknown because of Government's lacked to commit to monitoring programs which will make a difference to species survival.

Feather-tailed Glider

Acrobates pygmaeus



The **feathertail glider** (pygmy gliding possum, pygmy phalanger flying phalanger and flying mouse), is a smallest gliding possum 65-80mm and 10-14g, it can leap and glide up to 25m. Regularly found in the area.



Masked owls utilise the ecotone between forest and cleared land and inhabit fragmented forest-pastoral landscapes. Desirable habitat elements including tree hollows and prey accessibility

This species was found in the project area (traffic impact)



Fernbank-Glenaladale Road (which is to be relocated has a colony of Currawongs (Happy Family birds) who regularly nest in the old trees within the road reserves



Along the Mitchell River Platypus are seen frequenting the backwaters and lagoon systems. 2019 two adult males were found dead on the riverbank at the Wuk Wuk bridge.



Wedge tail eagle

The flora and fauna surveys have not been undertaken over a sufficient period and frequency to ensure all species have been identified, and therefore were inconclusive in terms of the impact of the mining proposal.

The Australian Pelican is regularly seen in the project area – a top order feeding predator who's diet consist of fish, frogs, vertebrates, vegetation, an indicator species of a health environment with reducing breeding sites within Victoria this ecosystem should not be compromised.

Golden Bell Frogs which have been found in the project area and who's numbers are significantly diminished, an identified population in the Clydebank Morass which receives its freshwater flows from the Perry River Catchment.

Fire

The proponent stated "*fire would not travel through the western part of project area being restricted by tailings and water storages, mine void. East, north and south section fire risk low due to existing horticulture, grazing*". In the February 2014, fire it took 2 hours for the fire to reach the Glenaladale area, fireballs, and embers ahead of the fire front ignited areas well ahead of the main fire. The proponent does not understand that CFA is a volunteer-based organisation if the project does not foster community goodwill volunteers will be reluctant to assist fires within the project area.

The mine site has a high probability to be impacted by fire because of the dry grass, rubbish, previous fire impacted trees which have not been cleared and it has the potential to spread and impact on adjoining landowners, suffering losses to property, livelihoods and homes through mismanagement of project area and minimal fire mitigation work.



Bushfires impacting
EGippsland 05 01 20



Two Fire fronts February 2014 (only taking 2 hrs to reach the project area)

Photo source Johnston Collection

2019/20 Bushfires in East Gippsland

The region was again impacted by fire in 2019/20 – fortunately, Glenaladale was spared only because of a change in wind direction. The proponent should not be so naive to think they are devoid from the impacts of fire.

- In this fire:
- 1,074,841 hectares burnt (56% East Gippsland Shire Council)
 - 55,724 hectares of agricultural land
 - 56% national parks and conservation reserves impacted including 115 state forest, 1,000,959 hectares of Crown Land
 - \$170-\$180- M of visitor's expenditure lost
 - 75% East Gippsland's tourism lost
 - 46,000 residents either directly or indirectly impacted



2014 Fires Glenaladale



Photo source Johnston Collection

Food production

Chairman of Robo Bank states that by the year 2050 our demand for food will be twice the current volume but the area or arable land will be diminished in size by 50%

The COVID-19 pandemic has brought an awakening to all levels of Government that Australia should not be so reliant on overseas Country's imports and we should become more self-sufficient. The basic items of food which are readily produced in our Country need to become the mainstay of our Nations consumption and less reliant on imported goods, with our stringent regulations and control for our exported produce and there needs to be adequate and enhanced controls on what we allow into our country.

Public demand for emergency foodbank supplies has increased by 28% because of COVID.

We would be better suited to produce food in this region than supply minerals for overseas markets.



Australian Food Bank state 15% of Australia's population does not have enough food to eat – we do not hear of a need or a deficiency in technology etc that these resources are utilised for.

Floods



Mitchell River downstream from the mine area 2014

Photo source Johnston Collection



Impact of flooding across flood plain – mine area in the elevated background

Despite the paddocks being covered with significant vegetation (structured root systems) it still resulted in severe scouring and deposition.



Flooding on project area – note nestling swan on raised nest area



Proponents land – flood waters in Lucas Creek (fallen blue gum planation at rear of photo)

8.4.33 Flood history Page 8-92

Table 8.23 Historic flood events for the Mitchell River (1900 to 2018)

Date	Towns affected	Flood intensity
1936	Bairnsdale	1 in 100-year event
June 1998	Glenaladale	1 in 60-year event
April 1990	Glenaladale	1 in 55-year event
Sept 1998	Glenaladale	1 in 55-year event
June 2007	Glenaladale	1 in 50-year event
July 2012	Glenaladale	
July 2016	Glenaladale	

EES - Flood dates and intensity are incorrect

Flood history

Major Flood level Moderate Flood level

Year	Month	Flood gauge location		
		Glenaladale	Rosehill	Bairnsdale pump house
1936				8.23
1952	December	6.46		
1970	June	5.93		
1971	January	5.9		
1974	June	6.32	5.26	6.8
1974	August			6.60

1976	October	4.54		6.30
1978	June 15			
1985	October	5.43		6.50
1990	April 21	7.64		7.84
1991	July	5.07		6.50
1993	October	5.16		6.40
1998	June 23	7.92		7.75
1998	September	5.69		6.54
2005	September		7.62	5.52+
2007	June 27	8.26	9.02	7.66
2010	September	5.16	8.13	6.36
2011	August	5.94	8.39	6.70
2012	March	4.53	8.13	6.24
2012	June 4	7.36	8.78	7.30
2012	Sept			
2016	July 7			

Flood Class Levels

Location	Minor	Moderate	Major
Glenaladale	3.0	4.5	5.5
Rosehill			
Bairnsdale Pump house	4.0	5.5	6.5

The Consultant identified *....during construction, earthworks, land disturbance activities will alter the natural topography requiring infrastructure such as bunds, diversions, sediment ponds to mitigate erosion and sedimentation impacts, flood may increase risk onsite and within the wider catchments.*

Downstream of the project area the observed changes were typically not measured. Why weren't they? The proponent has not experienced a significant rainfall event the whole time they have been involved with this project.

The impact of capacity and velocity of water entering the flood plain from the altered catchment will have significant impact on downstream properties. The volume of water experienced during each flood is different, determined by the amount of rain received further up in the catchment, localised rainfall, and impediment to river flows.

In recent floods it is the timing of when each of the volumes of water intercept each other determines the severity (debris, sedimentation, infrastructure damage) and depth of flood waters.

We have also been impacted by floods when we have not received any significant rainfall within the vicinity ourselves i.e. floods from rainfall received from catchments in the King Valley, Ovens and Kiewa system falling on this side of the mountain.

Potential impact *"retention of mine contact water for onsite management reducing rainfall runoff reporting to Mitchell River and Perry River leading to reduced surface water availability for licenced users"* Risk **Low**

With the construction of 19 surface water dams on and adjoining the project area – it is questioned whether the dam structures will with stand the deluge, manage the anticipated volume of water - even with the stated relocating of water from each structure – they will need personnel and infrastructure in place to immediately instigate the relocation of water.

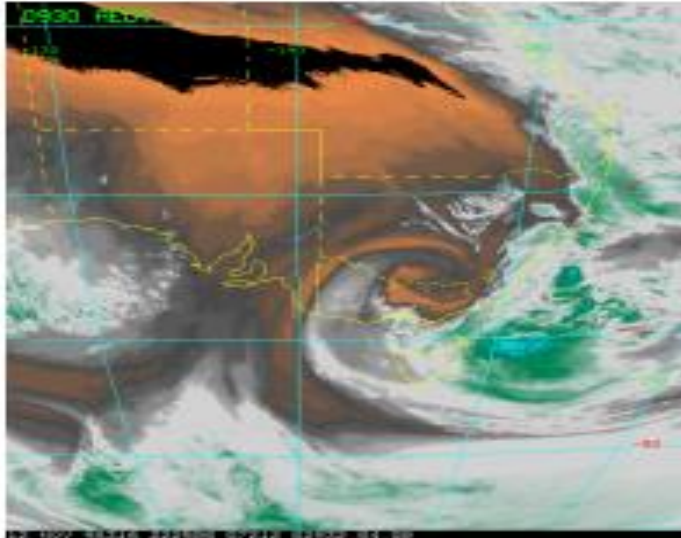
East Coast Low developing

1998 FLOOD EVENT

WEATHER SYSTEM

There had been 2.5 years of drought in the lead up to the 1998 flood event.

On June 23-24 the BoM reported a severe weather event with an intense low pressure system building across the east coast of Victoria.



East Coast Low June 1998

EVENT

An initial Minor Flood Warning for the Mitchell River was issued mid morning on Tue 23rd June. Indications were that rainfall for the 24hrs to 0900 was 75mm @ Crooked River and 70mm @ Waterford. A further 50mm of rain was predicted for the next 24-36hrs.

A Major Flood Warning was issued for the lower reaches of the Mitchell River early afternoon on Tue 23rd June, with a further estimated 20-50mm of rain expected in the 12 hours from 2200hrs.

IMPACTS

Princes Highway at the Mitchell River Bridge was closed to all traffic.

Mitchell Gardens and Wuk Wuk Caravan parks evacuated.

State Government financial response reached \$62.5m

Estimated total damage across East Gippsland - \$77.5 million

One life was lost, \$10.5m of roads and bridges were destroyed, almost 40,000 sheep and cattle perished and more than 300 houses were damaged by flood water across East Gippsland

This area can be subjected to an East Coast Low system developing off the Coast and depositing up to 10 inches of rain within a 24-hour period.

Gauge Name	Event	Gauge Height (m)	Flow (ML/d)	ARI (1 in X years)	
Mitchell R @ Glenaladale 224203	2007 Jun	8.39	169,000	100	
	1998 Jun	8.26	132,721		
		7.92	144,000	58	
		7.80	138,000	50	
	1990 Apr	7.62	130,000	45	
	2012 Jun	7.36			
		7.10	109,000	25	
	1952 Dec	6.44	100,000	20	
	1971 Jan	6.32	96,200	18	
	2011 Aug	5.95			
	1970 May	5.93			
	1970 Jun	5.90			
	1952 Jun	5.84			
	1998 Sep	5.69			
	1978 Jun	5.64			
	1959 Sep	5.51			
	Major		5.50	63,100	7
		1985 Oct	5.43		
		1949 Jul	5.27		
		1974 Aug	5.26		
	2010 Sep	5.16			
		5.03	53,300	5	
	1970 Aug	5.23			
	1993 Oct	5.16			
	2010 Sep	5.16			
	1991 Jul	5.07			
	1950 Apr	5.00			
	1942 Nov	4.88			
	1949 Jun	4.80			
	1951 Aug	4.79			
	1976 Oct	4.54			
	2012 Mar 9	4.52			
Moderate		4.50	43,000	4	
Minor		3.00	19,900	<2	



Proponents land to be mined - food waters traversing land into Lucas Creek

The hydrological assessment of the proposal is inadequate, the applicant has done little more than undertake a desktop drainage and flood risk assessment, there is no flood data or modelling for

the site, the applicant assumes flooding will occur on the land, it cannot say where this will occur, in what volumes, to what depth and at what flow rates.

Flocculants

Concentrates will be stored on site, accidental discharge either in transport or storage, will result in all forms of environmental and human health issues. The fire-fighting implications with concentrates imply large quantities of water are required – the mine should not rely on local CFA tankers and volunteers to remediate.

Flocculants are harmful to aquatic species, should not be discharged into lakes, ponds, streams, water ways or public water supplies. Many forms of aquatic and amphibious life are vulnerable to attacks by these chemicals, particularly frogs. How much of this chemical remains within the mine water circuit and where will it eventually end up in the environment?

Greenhouse Gases

The EES has provided minimal consideration of renewable and alternative energy supplies. The mining proposal will be a significant source of greenhouse gases (GHGs), primarily due to emissions of carbon dioxide (CO₂). The dominant sources will be the combustion of hydrocarbon fuels in mobile mining equipment, for temporary onsite electricity generation, for road transport of Heavy Metal Concentrate (HMC) a conservative estimate of 600,000 (Scope 1 emission) , and the use of coal in the Latrobe Valley to generate electricity and its distribution to the mine site to power plant, equipment and mine site facilities - another conservative estimate or 500,000 (Scope 2 emissions) .

In September 2019, the NSW IPC refused the Bylong coal project's Development Application, citing several reasons, including the project's direct and indirect greenhouse gas emissions and their impact on climate change (NSW IPC 2019b).

Why hasn't the consideration been given to minimise the generation of greenhouse gases with this proposal?

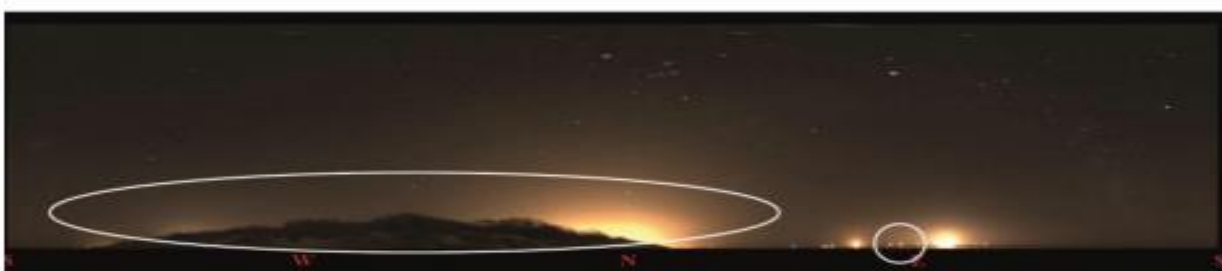


Figure 20 Sky glow created by lights shielded by a vegetation screen (circled left) and point sources of light directly visible (circled right).

NATIONAL LIGHT POLLUTION GUIDELINES 3

Illuminated night lights will impact on the public, nearby residents, livestock, and native animals how will this be addressed?

Ground water extraction

Subject to granting of Winter fill licence July -October when flows exceed 1.400 MM/day 6 gl could become available but if allowed extraction could result in the threshold being reached quicker. Impact on the 90-metre-thick Coongulmerang Formation has the potential for low permeability layers and creation of perched system beneath the mine footprint. Less flow into groundwater system that is connected to the Mitchell River ASR.

In the catchment shallow aquifers are well connected to the rivers and all river reaches are generally gaining. The annual average base flow indices (BFI) are high, ranging from 0.72 to 0.79 (DSE, 2012; SKM, 2012b). As there are few groundwater monitoring bores in the catchment, these gaining conditions are not evidenced by a groundwater hydrograph.

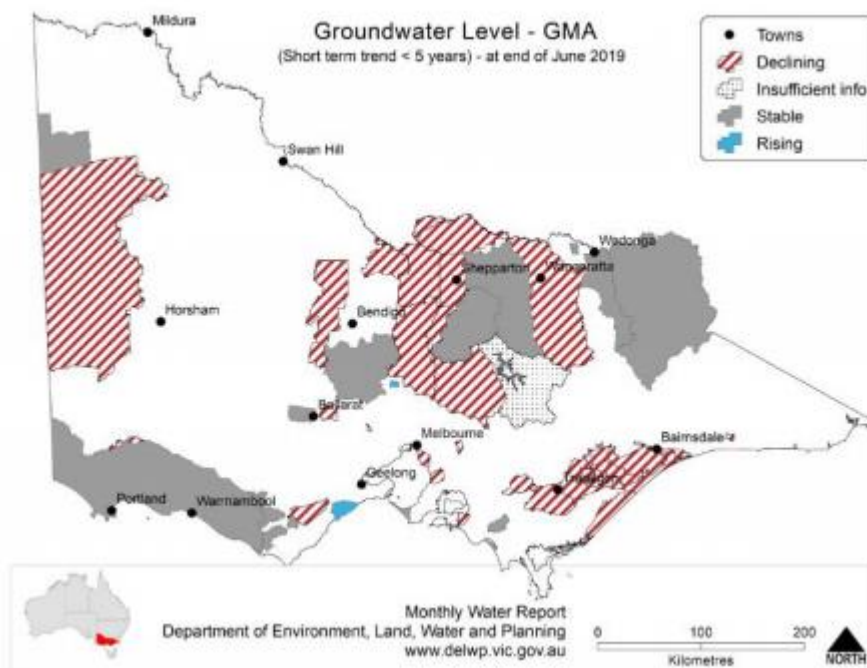
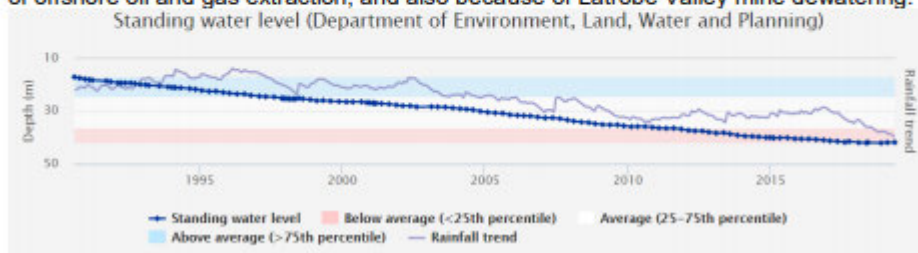
Groundwater levels are therefore considered to have a significant influence on the flow and aquatic habitat condition of the Mitchell River during low flow periods.

Only a sustained pumping test can establish the sustainable yield of the aquifer and provide an indication of the likely long-term effects on water levels, both locally and regionally.

Effects of extraction on groundwater levels

Stratford

Stratford GMA received 390mm of rain at the Maffra rain gauge station which was approximately 140mm less than the long-term average of 531mm. Groundwater usage last year was 110ML compared to the 10 year average of 39ML. Groundwater levels are slowly declining in this deeper aquifer, mainly due to the effects of offshore oil and gas extraction, and also because of Latrobe Valley mine dewatering.



The contribution of the shallow aquifers to the health of the Mitchell River is demonstrated by the fact that during droughts the river gauge at Glenaladale can register significantly lower flow rates than the gauge at Hillside. The additional flow is supplied by the shallow aquifers. Water percolates back into the aquifers during wet seasons from the river and from groundwater recharge areas such as Glenaladale.

Haul road

Table 3.2 provides estimates of the land area that will be disturbed for infrastructure outside the project area, namely for transport and access, as well as water supply.

Table 3.2 Estimate of land area disturbed for infrastructure outside the project area

Infrastructure type	Length (m)	Width (m)	Area (ha)
Infrastructure corridor (private haulage road, water pipelines and powerlines)	7,600	20	16
Fembank East rail siding	1,000	75	8
Groundwater borefield	-	-	5
Mitchell River pump station and surface water supply pipeline	5,100	5	3
Total (excluding public road reserves and powerlines)			31

Figure 4 Chapter 3 Project description page 3-3



Chettels Lane – area where Haul road is to be constructed

The proposed construction of a haul road – service corridor over private land is not an appropriate option – removing existing agricultural land, significant EVC's communities within the road reserves, and removal of old established trees which are shade, shelter, habitat and breeding areas for fauna.

Why can't a road be built along the road easement from Chettels Road to Bairnsdale-Dargo Road then follow along the mined area on the northern side of existing road, this route will not impact on the public, be constructed on reconstituted stable surface?



Haul road.docx



Bairnsdale-Dargo Road – significant vegetation including EVC's to be removed for realignment of road

Photo source – Johnston Collection

Sapling Morass – Kennedy's Crossing – Fernbank East proposed rail siding

The proposed haul road to the rail siding area adjoins Sapling Morass it is a seasonal herbaceous wetland containing 2 EPBC endangered communities, 2 Federally endangered species *Xerochrysum palustre* (swamp everlasting), dwarf kerrawang *Commersonia prostrata* and Gaping leaf orchid.

The haul road also crosses the headwaters of Skull Creek a significant feeder stream of the Mitchell River and of cultural heritage significance to the local indigenous community.



Planning scheme
EGippsland - sapling

Hazards

Spills of hazardous materials including hydrocarbon fuels, oils, HMC, chemicals and potential discharges/seepages from the temporary TSF if structural failure occurred would discharge from the site, down ephemeral tributaries of Honeysuckle Creek to Perry River, causing erosion,

sedimentation, impacting on downstream aquatic habitats, decreasing water quality, smothering waterbodies and vegetation. This is not environmentally acceptable.

Health

Residents have suffered unnecessary anxiety and stress with the proposal adding to the fire, drought, flood, and the COVID-19 pandemic. Mental health is as significant as the threat to physical health of the Community and needs to be assessed independently and considered.

How can the residents, commercial animals, native fauna, and flora be assured that their health is not dismissed in this proposal?

“Rapidly developing social disruption, depression, anger, violence, anxiety, mental disorders, suicide and political chaos” – Not everyone who suffers such losses perpetrated by uncaring others will respond by becoming depressed and withdrawn – some will respond with anger, revenge and violence. Rapidly growing threat of widespread violence, destruction of mining infrastructure and property and serious social and political disruption”. (Dr Wayne Sullivan)

The mined ore contains:

Titanium

- Titanium dioxide in nano particles is carcinogenic
- Titanium bio accumulates and is passed down through the food chain

Mercury

- Recycled water from mine put back into the river will need to be treated because of the high concentration of mercury

Aluminium Vanadium Chromium Lead

- Run off into rivers have the potential to elevate levels

Arsenic

- Technical studies show arsenic at 44%

Monazite

- Mixed into tailings disposed of as radioactive waste due to its content of significant uranium and thorium.
- The National Cancer Institute claims that Thorium is a major component of Monazite

Thorium

- Thorium is widespread in the environment and most people are not exposed to dangerous levels of the metal. However, people who live near Thorium mining areas have increased risk of exposure especially if their water comes from a private source.
- individuals exposed to Thorium have an increased risk of bone cancer, thorium is stored in bone.
- there is research evidence that inhaling Thorium dust increases the risk of lung and pancreatic cancer.
- the primary ways people are exposed to Thorium are through inhalation, ingestion, and absorption through the skin.

Long term public liability in view of long latency periods of carcinogenic effects on residents. Chemicals will accumulate in human body in muscle tissue, kidneys, and heart entering the body through the food they eat and the water they drink.

Inadequate assessment of the returned fine tailings to the mine void indicating they contain increased concentrations of aluminium and copper are of great concern for the impact on aquatic species. These fine tailings contain 2.3% quartz as RCS (respirable crystalline silica) fraction which is under the Protocol for Environmental Management of 3% but where was this initial assessment taken and analysis and would be it be the same composition across other areas.

Concentrations of other toxic chemicals occur within the ore and tailings titanium, chromium, vanadium - higher than the surrounding topsoil samples and the potential for these chemicals to mobilise into tailings water. With a closed water circuit model in place these chemicals will be concentrated and intensified in the environment (Appendix A002 Section 6) does this indicate a potential health problem?

Horticulture on the Lindenow Valley

<https://www.facebook.com/1677710495782598/posts/2754204148133222/?d=n>

Graeme Dear – Horticulture days at Lindenow 05/20

- The 20,000 acres of the Mitchell Valley Flats produce approx. 500 tonnes of vegetables per day
- The estimated turnover from The Mitchell Valley Flats is around \$150-\$200 million per year.
- Up to 2,000 people are employed directly on the Lindenow Valley Flats
- Agriculture has a flow-on employment rate of 4.2 jobs for every direct employee, which means that total employment associated with The Mitchell Valley Flats horticulture industry alone is around 10,400 jobs. *Source NFF Website*
- The Mitchell Valley Flats could double its turnover (an additional \$200 million per year) and employ an additional 1,000 personnel if it had water security. *Source Discussion with Bill Bulmer*
- Vegetables on the Mitchell Valley Flats are produced under strict quality assurance systems with zero tolerance of impurities.
- Busch Organics is Victoria's largest organic vegetable grower, and one of Australia's biggest organic veggie growers. This company has expanded four-fold in the last five years. *Source: Discussion with Kane Busch*
- Most countries to which the produce is exported have point-of-entry heavy metals testing. Detection of heavy metals results in a two-year import ban into that country
- The valley is now a productive irrigated agricultural area of national importance with nearly 80% of its fresh vegetable and salad crops being transported interstate, with 20% consumed in Victoria and exported. *Source Lindenow & District Community Plan 2013-2018*
- Organic food Gippsland makes a significant contribution to Australia's food-growing sector, producing fresh and manufactured organic food products into local, national, and international markets. It has an increasing number of organic fruit and vegetable producers and a growing organic meat, dairy and egg sector.

Bush's Organics – established and developed over many years by a father and his two sons both born with severe disabilities to create a lifestyle and derive income in employment they could manage. This enterprise now employs up to 80 workers. This organic vegetable production farm

is within 350m of the mine and will be threatened by less water availability and the copious amounts of dust impacting their property from the mine. **A wonderful successful story.**



Horticulture within the Lindenow Valley

Photo source Johnston Collection

Landowners

Landholders within the project area will be compensated for impact on productivity and livelihood in accordance with the Mineral Resources (Sustainable Development) Act and the Land Acquisition and Compensation Act.

Growing demand for properties in both the Wellington and East Gippsland Shires is adding to the region's economic growth. Land in the Glenaladale area is increasing in popularity as lifestyle properties, within 20km commuting distance of Bairnsdale and similar distance to Sale both large regional centres. The peaceful, wide open spaces, safe Community environment, sporting groups, recreation activities, fresh air and clean water are attracting young families into the Community. We would not like to see the development of a mine compromise this desired amenity of the area.



Sheep grazing on adjoining properties.

Photo source Johnston collection

Particular attention needs to be given to landscape because of the importance that is attached to it by individuals, communities, and public bodies. Landscape is important because it provides a shared resource, an environment for flora and fauna, a setting for everyday lives – for living, working and recreation, opportunities for aesthetic enjoyment, a sense of place and a sense of history, which in turn can contribute to a sense of identity, continuity with the past through its relative permanence and its role in acting as a cultural record of the past, a source of memories, which may in turn contribute to wellbeing, inspiration for learning, as well as for art and other forms of creativity.

In addition, landscape provides economic benefits, both directly by providing an essential resource to support livelihoods, especially in agriculture, forestry and other land management activities, and in recreation and tourism, as well as indirectly through its now widely acknowledged benefits for health and wellbeing.

Do not let the mine detract future residents and farming businesses to our area.

Land use on the project area

The proponent dismissively refers to the land in the project area as being “marginal” country. Viability and productivity of the Land is achieved by how you manage it. The land owned by the proponent for the last 6 years is a prime example of poor land stewardship and disrespect for the adjoining landowners and Community, with the properties potential fire risk, and no instigation of any control over invasive weeds and pest species.



View of Mitchell River from the plateau



Kalbars “refined” project including the expansion in area of 275ha and addition of another processing plant will impact on a further 9 households in this Community.



Blue gum plantation



Careys Road

Summary of landowners represented on the 1675ha mine project footprint.

- Kalbar the proponent owns approximately 140ha. Since purchasing property in 2016 apart from a summer fire break they have done little to improve, clear and remove burnt trees, control wildlife and noxious weeds. This property was a viable, fine wool merino sheep property for 3 generations, a canola crop that was planted and yielded well in 2003. Store weaner calves were annually produced from the property by previous owners. Early season peas and beans were grown on this elevated land because of the lessened risk of frosts.

- Current owners (Superannuation investment) brought this from a failed managed investment scheme who had planted it down as a blue gum plantation. Occasionally sheep seasonally graze the plantation. Prior to this it produced fine wool, raised, and grew out replacement dairy heifers and fattened livestock for local markets.
- Property held in the family ownership for 4 generations – running replacement crossbred sheep and cattle. Supplemented income earned by producing fresh vegetables, fruit and eggs which are sold locally. Enough income earned to make it economically viable and a lifestyle this elderly, unwell resident enjoys and cherishes - **the proponent has now purchased.**
- This property produces cattle for the local market this property provides shelter and refuge while calving down its replacement herd.
- A fine wool merino and sheep fattening property now producing prime cattle into the domestic, interstate, and overseas markets. This property has been managed environmentally, ecologically, sustainably, and economically viable for over 4 generations. This cattle property compliments their adjoining land and severance of this portion of the property would severely reduce the total of grazing pasture and minimise the rainfall runoff watershed that is vital for their animals' water supplies.
- Self-replacing livestock producing store cattle for the local and domestic markets. Dorper and crossbred sheep producing fat lambs and wool production for local, interstate, and overseas markets. This land represents a large portion of their grazing enterprise. The landscapes gullies provide shade and shelter and capture water for the animal's water supply dams. A loss of this magnitude of land from their enterprise will severely if not cease this primary production farm.
- A small lifestyle holding which at times can run sheep or cattle on agistment. A property that is managed ecologically and maintained well, free from weeds and vermin. A commercial engineering business is run from here providing fabrication and repairs, servicing to local business, vegetables producers and agricultural enterprises. If the mine proceeds in such proximity, the vibration, dust and impact on this property and business will force them to relocate. **Now owned by the Proponent.**
- The owner of this property has an alternative income stream the properties attributes have declined. Its huge potential managed appropriately would be an asset to the region. Previous owners successfully ran fine wool merinos, prime fattened sheep, cattle and adjusted dairy herds in the off season further supplementing this property gross net production value. Large dams filled by feeder gullies and sheltered areas are an asset to this property. Removal of this agricultural land and the impacts from the mine on the downstream environment are of significant concern.
- Once a dairy farm and a pig breeding/fattening farm now a self-replacing animal production farm. This portion of the farm on the mine footprint forms only a small portion of this farm's economy to an elderly couple who are focussed on their retirement.
- Store sheep production property representing only a small portion of this larger farm.
- Raising and fattening property turning out animals into the local and domestic markets. This young family have returned to this property to continue the 4th generation to nurture this land. Their professional background and young family have developed their careers and laid a foundation for their future. They are an asset to the Community – bringing skills and knowledge that we as a Community should encourage. If this portion of their land is mined, they will leave the area and relocate their family to somewhere they can peruse their lifelong dream. The rear portion of this property will also be impacted with a water pipeline and haul road easement traversing the entire length of the land.
- Pine plantation managed for paper/pulp production.



Land on the project area



Photo source Johnston Collection

The proposed mines impact on a property in the project area

Paddocks strong fertiliser history, drought proofed water storage, bores, animal's strong genetic bloodlines have been developed to ensure this highly productive commercial herd produces the livestock the prime market dictates.

The future generations and their families intend to continue farming supporting the local schools, sporting clubs and service groups within the Community. With their youth, enthusiasm, knowledge academically and trade-based skills they will be an asset to the area. If the mine goes ahead this family will relocate.

The proportion of land to be taken out for mining, easement at the rear of the property to be utilised as a haul road and water pipeline, the realignment and relocation of two major roads through this property will render a large proportion of the land unusable. The compaction and water shedding of surface water from the impermeable soils will not be conducive to pasture growth. Their adjoining portion of the property will be severed and segregated prohibiting animal movement, vehicle entry and preventing access. The dust emitted from the mine and haul roads on the entire property will be unmanageable.

Cattle will not eat fouled pasture, their teeth wear down considerably, their lifespan compromised, hides dirtied, eye diseases will be exacerbated. The vibration, noise, lighting, and constant vehicle movement will negatively impact on their grazing environment.

A family's lifetimes work, hopes and dreams destroyed all for the benefit of Shareholders including overseas interest in this mining Company.

As primary producers we have also suffered downturns in Commodity prices. Our own property has experiences several droughts including this current prolonged dry period, a major bush fire (losses include 94 head of cattle, 250 round bales of hay, internal and external boundary fencing) and five major floods (referred to as 1 in 100 events). We ourselves work towards ensuring our **own resilience** to these adversities.

We have developed, improved and expanded our farming enterprise to establish a progressive, financially viable, long term farming system, expended considerable investment in developing our infrastructure to provide adequate water storages, bores and irrigation systems to grow fodder and provide good water for livestock, bred and selected genetically an outstanding beef herd that is revered in this district, used sustainable farming practices to establish an enterprise that will provide a living for the current and future generations involved in it. The impact of a mine next door and eventually engulfing our farm will force us and our family to relocate – taking with its

years of experience (4 generations) and knowledge earned from working and nurturing this landscape.

The proponents advise the yearly income generated from the land within the mine footprint is between \$52,000 and \$75,000. In terms of the economic worth to the region earned from this agricultural land mass that will be lost to the mine – I can only speak from our prospective. We produce more than 27,000 kg of beef (protein) each year from this property alone – with the potential to produce more in volume as it has done in the past when seasonal conditions are more conducive our property alone grosses three times the proponents estimated yearly income stated.

Current agriculture and horticultural enterprises have a 4:1 flow on equated to 10,000 jobs per year locally. These existing enterprises spend locally and support the Community. With the worlds growing population and the increasing demand for clean green food these enterprises should be encouraged.

With the current price of land, animals, infrastructure, and the significant cost to borrow money it will be financially prohibiting for the next generation of farmers to enter agriculture. We should be maintaining and encouraging not turning away our future farmers. Agriculture is an industry that is renewable, sustainable, can be managed ecologically and feeds and clothes or nation – Mining is none of these.

Issues we have identified and certainly not conclusive that will impact our land include, sedimentation of gullies, creeks, streams, dams and rivers, waterborne contamination from dust both organic and toxic, radiation, vibration, constant noise, lighting, removal of a number of significant large trees which provide shade, shelter and support vast eco systems, impact on groundwater and upper aquifer, impact on stream baseflows to wetlands, destabilisation of gullies, sodic soils and the proponents ability to compact and reinstate the soil profile and prevent tunnel and gully erosion. This proposed mine will present a high level of impact on the landscape with a high level of risk.

Experience shows us that similar mineral sands mines in Balmoral, Ouyen and South Australia have a short viable lifespan. These mines are currently not in production due to the commodity price being uneconomic to mine. Some are in care and maintenance mode.



Government supporting long term investment in agriculture.

/ DEPARTMENT OF ENVIRONMENT, LAND, WATER AND PLANNING

Protecting Melbourne's strategic agricultural land

Join the conversation about what strategic agricultural land we protect and how.
Consultation closes 23 April 2019.

Overview

The Victorian Government is committed to protecting the long-term future of strategic agricultural land in Melbourne's green wedge and peri-urban areas. Some of Victoria's most productive agricultural land is within 100 km of central Melbourne. In 2015-16 the region grew 10 per cent of Victoria's agricultural production, including 59 per cent of vegetables.

The first step to protect food production in the peri-urban and green wedge areas is to identify what areas have the greatest agricultural potential. A lot of technical work has been done to ensure we have a good evidence base for identifying strategic agricultural land. A common set of criteria to help guide the assessment process has been developed.

In the future strategic agricultural land will be recognised and protected in the planning system. This work is about more than protecting strategic agricultural land. It is also about providing greater certainty for agricultural businesses in key precincts to support long term investment.

What areas might be strategic agricultural land?

DELWP has developed draft criteria to identify strategic agricultural land. The draft criteria considers the naturally occurring features of the land as well as current land uses, location of important infrastructure and links to processing and supply industries.

Landscape



Panoramic view including those hills you cannot see

Photo source Johnston Collection

Distant hills of the Great Dividing Range provide a majestic backdrop. The clarity of the air enables snow to be visible on distant peaks during the Winter months. Urbis in their report 3.4.2 page 15 doesn't recognise this, stating "*The distant Eastern Highlands are occasionally visible ... Even the locals can see the distant hills.*"

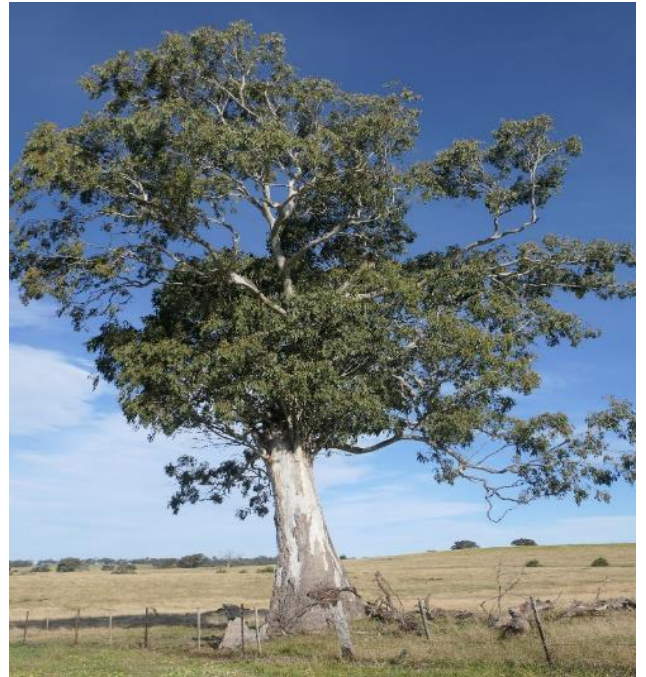
Page V of Executive summary Demonstrates Urbis contempt as they describe agricultural practises.... "During the mining process ... the disturbance to the landscape setting will be similar to the disturbance created by broad scale soil cultivation associated with agriculture, which can often be visible for a number of years until surface vegetation establishes depending on seasonal rainfall". Duration of disturbance and the ability to return the paddocks back to viable, sustainable, stable landforms will depend on the operator's experience, land management skills, their ability, their knowledge of the specific landform, machinery used and seasonal conditions.

Urbis have noted in 6.2.1 their (desktop) based viewshed analysis on 'availability of reliable digital topographic data'. They have omitted to include the 20 Dams surface water dams that will deny other beneficial users of a water supply.



Urbis categorised residences by referencing extent of "homestead vegetation", suggesting "the presence of 'tools of the trade', such as materials storage areas, farm equipment, silos, sheds etc can take up a considerable portion of the view shed around a house, having a greater contributing influence on visual modification than other more distant elements". Even country people have a wider peripheral field of vision than they realise.

Urbis states the landscape will be reliant upon natural rainfall for trees to become established, Landloch suggesting tube stock as the preferred replanting size. Many species will be more than 200 years old to reach the same size and support a diversity of species within as the trees they intend to remove.



Changes to topography – alteration of slope gradient of the land will impact the aesthetic appeal of the landscape.



Rural nightscape has significant and obvious differences to the urban experience. At Glenaladale there are no streetlights, night sky is interrupted by the occasional passing vehicles, or agricultural equipment working into the evening



Our place

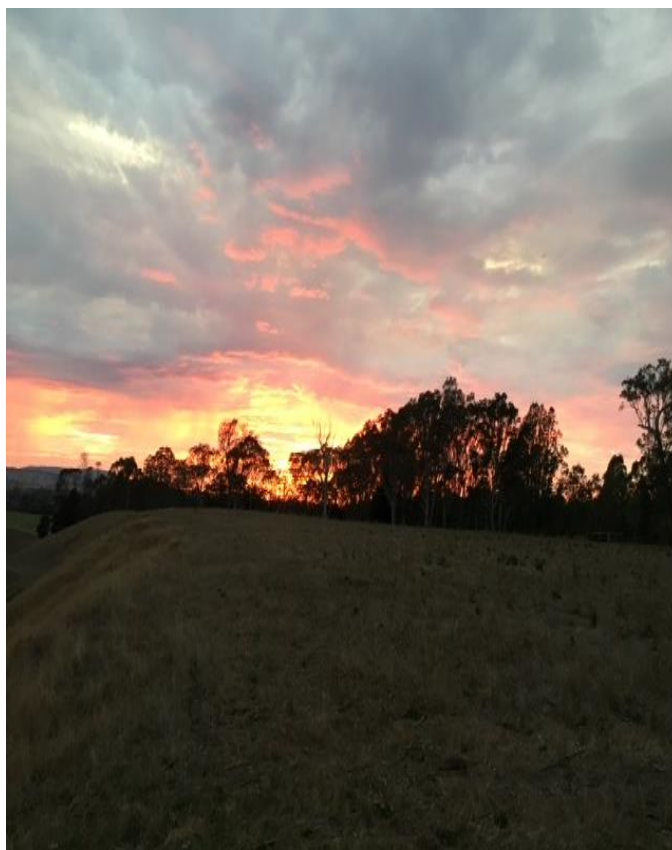


Photo source Johnston collection

This proposed mine is in the wrong place

“The project is not in the public interest because it is contrary to the principles of ecologically sustainable development – namely inter-generational equity because the predicted economic benefits would accrue to the present generation but the long-term environmental, heritage and agricultural costs will be borne by the future generations. “

Let us not leave a legacy to our future generations because we did not question the selfish intentions of others.

Legislative

Legislation	Criteria	Response
Water Act 1989(Vic)	<i>...”to promote equitable and efficient use of water resources and ensure that water resources are conserved and properly managed for the benefit of all Victorians”</i>	Provides several matters to which the Minister for Water (or her delegate) must have regard when considering applications for the issue, renewal, transfer, or amendment of a wide range of licences and use permits. Need regard precautionary principle in making decisions requiring <i>“If there are threats of serious or irreversible environmental damage, lack of</i>

	Section 53 of the Water Act 1989	<p><i>full scientific certainty is not to be used as a reason for postponing measures to prevent environmental degradation".</i></p> <p>Decision making must be guided by a careful evaluation to avoid serious or irreversible environmental damage, and an assessment of the risk-weighted consequences of various options.</p> <p>Consideration is required to Water Resource Management Orders (WRMOs), the Minister is required to have regard not only to the core considerations, but also to significant environmental, economic, social impacts</p> <p>This specifies the matters that must be considered in an application for a licence to take and use water. Including existing and project water availability, water quality, the requirements of existing and competing users, government conservation policies and need to protect the environment and cultural impacts</p>
Environment Protection Act 1970(EP Act)	<i>However, discharges to land involving only mining wastes are exempt for the need or permitting under the EP Act (as they are regulated under the MRSDA)</i>	This impact on the environment needs strict control and oversight by relevant authorities. An assessment should be done of the risk-weighted consequences
The Planning and Environment Act 1987		Which requires that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land. Biological diversity should be protected, and ecological integrity maintained. Decisions and actions should provide for community involvement in issues that affect them.
MRSDA	<i>Ensuring that mineral and stone resources are developed in ways that minimise adverse impacts on</i>	Evaluation to avoid serious or irreversible damage to the environment is paramount. An

	<i>the environment and the community</i>	assessment of the risk-weighted consequences of various options should be more thoroughly considered. Long and short term economic, environmental, social and equity considerations should be effectively integrated into decision-making. Development should make a positive contribution to the region and respect the aspirations of the community and of Indigenous people
Heritage Rivers Act	<p><i>Section 12- Land and water uses which are not permitted in natural catchment areas the carrying out of the following uses and activities must not be permitted or take place in a natural catchment area— (d) mining.</i></p> <p><i>Specific land and water use for particular natural catchment areas</i></p> <p><u>Column 2</u></p> <p><i>Land Conservation Council recommendations</i></p> <p><i>East Gippsland Coastal Streams B1(d) no alteration occur to the natural hydrological properties of these catchments (e) sites of botanical, zoological and geological/geomorphological significance be protected. “</i></p>	With anticipated decline in Mitchell river flows by 2030 by an estimated 25% - more consideration should be given to environmentally sustainable, long term, ecologically acceptable developments. The estimated annual requirement for this mine is more likely to be 9.85gl just to process and remove minerals.

The project is not in the public interest because it is contrary to the principles of ESD (ecologically sustainable development) - namely intergenerational equity because the predicted economic benefits would accrue to the present generation but the long-term environmental, heritage and agricultural costs will be borne by the future generations.

Few jurisdictions provide the public with meaningful information about whether resources activities, once operational, meet regulated requirements.

Mitchell River



Proposed mine site

MITCHELL RIVERS
VICTORIAN HERITAGE RIVER

There is not a definitive volume of water stated for this complete mine process – what happens if they are unable to get the required volumes of water – do they compete with other users, who loses out residents, irrigators, the environment, animals etc.?

Will they need more water than they are estimating and where will that come from?

With the proponent looking to pay \$4.7M for the water licence they would have to be considering other options or agreements.

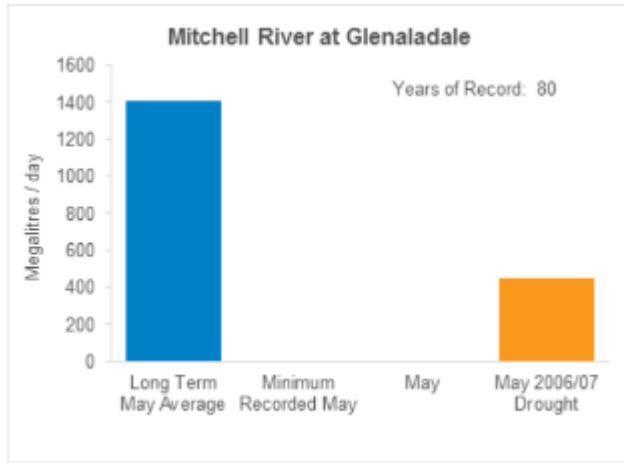
Total ban on Mitchell

2019-2020 with prolonged drought saw a total ban on pumping for irrigators within the Mitchell Valley. The mine will be in direct competition with other licenced users and the environment.



darrenchester.com.
au-10 MILLION WAT

\$10m federal funding for water infrastructure for Lindenow Valley



Total irrigation bans on the Mitchell river

<https://www.eastgippslandnews.com.au/news/local-news/124-total-ban-for-the-mitchell>

East Gippsland Fishing Reports

Rob Paterson ▸ East Gippsland Fishing Reports
14 hrs · 📷

Dry Times....Some of the rivers that combine to form the Mitchell River (Heritage River) are the Wonnangatta, Dargo, Moroka, Crooked and Wentworth rivers. This photo taken yesterday is at the Slalom Rapids near the top of the Mitchell river gorge. The Mitchell is known as the largest free flowing river in South Eastern Australia.
There are now plans to take the excess water from this river.

Peter Erwin and 21 others

Emiel van den Hurk
Which excess water??? 📷 8
14 hrs Like Reply More

Leigh McVeigh
Heading for dark times here local

People You May Know

- Steven Pryke**
Lakes Entrance, Victoria
2 Mutual Friends
- Steve Hume**
Stromlo High School
1 Mutual Friend
- Michael Jones**
Gippsland Grammar School
2 Mutual Friends

SEE MORE

Pages You May Like

- Ladymadambutterflies 90...**
Personal Blog
270 Likes
- Darren Edwards Timber Art**
Product/Service
68 Likes
- Environment East Gippsla...**
Nonprofit Organization
9366 Likes

SEE MORE

Southern Rural Water (SRW) is responsible for assessing any take and use licences applications in the Glenaladale area and should evaluate the project's environmental effects before determining whether to grant a licence under the Water Act 1989.

Of great concern is the pipeline that will be used to return surplus water to the Mitchell River – correct protocol and monitoring needs to be enforced to ensure the water is not detrimental to the environment

Mining processes

Designing and planning controls are applied to control any risks associated with this proposal, those controls are known as “mitigations” or “management” controls and they are used to “minimise” or remove the risk. There is a chance that a “mishap” could occur, the impact of that “mishap” is measured via the risk assessment process. If they “mitigate” and “manage”, they will “minimise” or remove the chance of that mishap happening. But how can the Community be guaranteed that reporting both from the proponent and the public are properly responded to and addressed?

What moral right does the proponent and the authorities must destroy the Communities lives, farms, and future?

Is the revenue and value of the resource to be mined worth it compared to the legacy impacted on the environment and community?

When comparing the proposed mine with any Western Australian mine and the Western Victorian Kanangaulk mine, is that they are onshore formed deposits, therefore being coarse grained. This deposit is offshore, therefore making it fine grained. Yet no-one has been able to separate fine grained material for commercial quantities. Iluka Resources is still experimenting and hopefully getting a breakthrough. If this material is fine grain, at this stage it has no commercial value.

Overburden placed in stockpiles of 15m high (for safety reasons) will discharge large volumes of dust across the surrounding area



1675 ha overlaid
Melbourne.docx

Dimension of mine overlaid Melbourne CBD

Noise

Information regarding potential health impacts caused from sleep disturbance (i.e. impacts to the cardiovascular system, physiology and mental health), and potential health impacts to vulnerable groups such as the elderly, chronically ill, individuals with a vision or hearing impairment, pregnant women, and young children. The World Health Organisation notes that individuals within vulnerable groups are less able to cope with the impacts of continuous noise exposure and are likely to be at greater risk of potential impacts from elevated noise levels.

Noise impacts have not been considered on livestock and native animals.

This Community is accustomed to good noise (natural noises) against unacceptable noise. Noise impacts on the Community need to be tested over a longer period to identify cumulative effects and the impacts on people's wellbeing.

It was noted that Marshall Day state that "trees don't deaden noise" so with processing plant behind trees, noise will not be rectified.

Set up a mining camp, permanently lit, water pump station working for long periods of time, constantly noisy pumps in the vicinity of residences will significantly impact on their environment.

Plants operating behind bunds on lower sections of project area will echo because of the surrounding topography.

Why does the mine need to operate 24 hours per day, in Western Australia and other mines sites they are not allowed because of the residences nearby – the mental health impacts would be profound? If they cannot operate the full day it may not be economically feasible for them to operate so it could stop the project if this were a condition put on them.

It is noted the EES they state blasting to recover resource will not be required but previous experiences with construction of large dams and infrastructure in the local area highlighted the developers encountered impenetrable formations requiring blasting to continue.

Offsets

The EES needs to take into account both Matters of National Significance (MNES) under the EPBC Act and all matters under the EES Act and Planning and Environment Act.

Offsets under the EPBC Act will need to identify where the offsets for Matters of National Significance (MNES) would come from. The process of calculating offsets and providing a management plan for the offsets that does not have to occur before approval seems inadequate. The location should be identified, and definitive availability confirmed otherwise what is the guarantee that this has been achieved?

Offsets under state rules - the proponent must be able to demonstrate that the biodiversity offsets required are available, including the following possibilities:

- First party offsets could be on land that the proponent owns
- Quotes for Third Party offsets (provided by another supplier besides the proponent) are often provided in planning permit applications with no guarantees that it will be available after approval. It is illogical to buy expensive offsets for a development that has not been approved. A proponent should ideally pay deposits and/or have a contract to acquire key offsets if approval occurs for their own security and to provide more certainty to the EES Panel and Minister.

The offsets already available for sale are on a public online register so a proponent could highlight that "adequate" offsets are available for purchase, there is little information to assess whether offsets are achieving their objectives. Offset schemes should be backed by public registers, including information on whether and how offsets have been evaluated.

The mine will require an enormous number of offsets, a loss of 375 ha of native vegetation would mean anywhere between 500 and 1500 ha of similar vegetation to be protected and have dedicated conservation management under the Planning and Environment Act. EPBC offsets

could overlap on the same land or need to be found separately depending how many hectares of MNES habitat are to be cleared.

Most of the Ecological Vegetation Classes affected are endangered, with less than 10% left with all of the clearing on the Gippsland Plains since settlement, finding enough land to do an adequate offset will be very difficult.

The offsets would also need to primarily come from East or West Gippsland depending on the required offsets and there simply won't be much opportunity because they would have to be from low country, much of it already cleared, rather than high country. If adequate offsets are hard to get then the project should not happen. The lack of offsets is an indication that too much clearing has already occurred this should be reinforced in the DELWP Biodiversity assessment and Planning referrals.

Public registers of activities with offset obligations and the projects developed to fulfil them provide valuable transparency about the application of offset policies. Information on offset projects should include their biodiversity values, location, date of approval, completion status, and follow-up evaluations of benefits



The grassland and grassy woodland forms of the ecological community at Fernbank Reserve, near Fernbank, Victoria





Flora within project area



Rate plant species
Munro.pdf

Other mines



Benambra.docx

Benambra Copper mines licence expired 2004 and was taken over due to insolvency by DPI assuming full responsibility, site rehabilitation including all liabilities, with the bond of \$375,000-spent, ongoing environmental risk (700,000 tonnes of sulphuric acid leachate) at the head of the Tambo River catchment potentially impacting on downstream Gippsland water ways remedial works towards rehabilitation necessitated a \$5.6m expenditure, now in 2020 further rehabilitation of \$300,000 -. This is not the type of costly imposition we want to see thrust on to Governments.

The development of the Beenup mine, for instance, highlights environmental and social impacts of mining on local communities in areas previously not exposed to intensive mining operations. Impacts include the construction a dedicated heavy haulage road system for the transport of mineral products to the export facility located at the Bunbury port, land clearing for high voltage transmission power lines and the contamination of local water systems from release of mining waste water.

A driving force in the expansion of mineral sand mining in some States has been due to environmental restrictions that were imposed in the early 1980s on opening new mineral sands mines in the Eastern States. These restrictions resulted in the virtual cessation of mineral sands mining operations in New South Wales and Queensland, where deposits are often located in fragile dune systems and in national parks.

Arguably, the expansion of mining and downstream processing industries in some States over the past 15 years, with the attendant environmental risks, may have involved lower environmental standards than would have been acceptable elsewhere in Australia.

The report on the inquiry into the 2014 Hazelwood mine fire identified several issues in the Latrobe Valley, including limited or slow rehabilitation of mines, poor rehabilitation plans, insufficient rehabilitation bonds and a regulatory system that lacked transparency and clarity.

With a poor rehabilitation percentage in Australia rehabilitation bonds should cover the full cost of the liability, minimising the risk to governments, and mitigating the risk of moral hazard to the Community.

Perry River

These waterways consist of irregularly spaced, deep pools separated by a grassy depression or shallow undefined channel. "Chain of Ponds" systems were once common across South-eastern Australia but are now exceedingly rare.

The catchment and its ponds are home to many threatened plant and animal species such as Dwarf Galaxias, Pygmy Perch, Green and Golden Bell Frog, Gaping Leek-orchid and Prostate Cone-Bush

The Government has funded \$1.6m through the Victorian Government's Our Catchments, Our Communities Program – to protect and rehabilitate the Chain of Ponds and increase habitat connectivity in the Providence Ponds and Perry River Catchment.

The mine site including TSF, contingency water dam, loading facility /stockpile/materials handling area and silt collection are on a tributary of Honeysuckle Creek which feed into the Perry River system. From this watercourse vast volumes of water flow towards California Creek and into the Ponds system.



Mine site following
July 2020 rainfall.pdf



Tributary of Honeysuckle Creek flowing from project area following 107ml rain on 13/07/20 discharge approximately 3ml of water daily from the project site. *Photo source Johnston collection*

Chain of ponds

<https://vimeo.com/402793620>

Investigation needs to be conducted into the impact of any changes in ground water quality and/or availability on the Perry River system, which is reliant on shallow aquifers to maintain supply to its chain-of-ponds. Monitoring of ground water levels and quality must be performed frequently during the project and be publicly available to allow scrutiny. Triggers must be established and published to ensure mitigation measures are enacted to minimise further unacceptable disruption to aquifers.

Planning scheme

East Gippsland Planning Scheme Municipal Strategic statement:

- Proponents – justification – “ *the net economic benefits of the project will be greater than the economic loss of temporary removal of land from dryland agriculture*”. **But mining is a once off use – not renewable, sustainable, nor environmentally acceptable inflicting too many unknown consequences on the Community.**
- Identifies that the Shire is “*home to a range of industries including agriculture, horticulture*” **and should be encouraged**
- “*Bairnsdale-Dargo Road is identified as scenic road*”...**with the progression of the mine it will not be an area that anyone will be encouraged to traverse.**
- ...”*deals with protection of agricultural land. The first objective seeks to ensure that rural land is used and developed in a way that will support efficient agricultural production*”. **This area already supports economically viable production.**

It is one thing for a local council or government to resume land for a fair compensation, but it is an entirely different situation when the rights of rural landowners and farming families across the country are violated en masse without proper consultation, consideration of their rights, or payment of fair compensation. This planning scheme amendment has not been discussed with the landowners

The East Gippsland Planning Scheme Municipal Strategic statement should be amended to include :

- a) extending prime or high-quality agricultural land within the project as an interface to ensure existing and adjoining prime production land is protected and maintained from inappropriate development.
- b) identifies special water supply catchments (which includes the feeder gullies within the catchment) be protected from adverse development

Clauses from each of the Planning policies should have been included in the original wording not misconstrued to the wording the proponent wanted to show.

East Gippsland Shire Council Planning Scheme *Farming Zone Schedule 1 ...*”*To provide for the use of land for agriculture. To encourage the retention of productive agricultural land. To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture. To encourage the retention of employment and population to support rural communities. To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.*” **The local municipal planning scheme supports agriculture**

State and regional planning policy framework

- Bushfire planning. The objective seeks to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life. How does that support the surrounding population, the mine will exacerbate the fire risk with vast areas of dry vegetation?
- Balance the potential off-site effects of a use or development proposal (such as degradation of soil or water quality and land salinization) against benefits of the proposal. The benefits seem to be for the shareholders not the long-term benefits to the community in the 5-15-year time frame.

- Catchment Planning and Management ...is to assist the protection and restoration of catchments, water bodies, groundwater, and the marine environment. The volume of water excluded from the water bodies will have long term significant impacts on the salinity of the lakes, ground water dependant ecosystems, riparian vegetation, and climatic systems.
- Water quality. ... *objective is to protect water quality. The impact on the Mitchell & Perry River systems downstream users and the environment, including tourism, and recreational fishing if water quality is compromised with have significant economic and social toll.*

Compulsory acquisition of private land to be used by the mine for infrastructure that is located outside the mining project boundary for – water pipelines, bore pumps, bore field, roadworks, powerlines, easements, rail siding and vegetation removal is unacceptable and should not be consented to.

The Incorporated document – exempts project works from planning permit triggers – which may require additional plans to be prepared to the satisfaction of the responsible authority showing further design details such as specific works, proposed routes, and detailed locations. Effectively taking the decision making or discussion away from the Community and Local Government Authorities.

Planning Scheme amendment has no provision for compulsory land access or acquisition. If land access or acquisition is not granted by the existing landowner, then construction cannot take place.

Radiation

Management of radiation hazards from mining of mineral sands and the environmental hazards of ionising radiation associated with the mining and processing of titaniferous minerals contained in mineral sands deposits has brought a public awareness of the risks posed by monazite, which emits low levels of radiation as it contains thorium and uranium. This has caused increased public scrutiny of practices adopted by the mineral sands industry to address the occupational and public health risks that arise from mining and processing of the resource. Pollution of local groundwater supplies and river systems through leakage from settling and evaporation ponds, the transport of minerals by heavy haulage vehicles along local roads, dredging operations in fragile coastal dunes, the clearing of forest to construct high voltage distribution systems to mine sites, and the loss of remnant stands of native forest.

Radiation hazard levels are determined by reference to Codes of Practice and standards set by National and international scientific and medical bodies, implementation of standards depends on complementary State and Commonwealth legislative arrangements, the enforcement of environmental and radiation standards is a State responsibility, the administrative arrangements established by the States are fragmented as they consist of provisions contained in mining, radiation health and other legislative enactments.

Rare earths

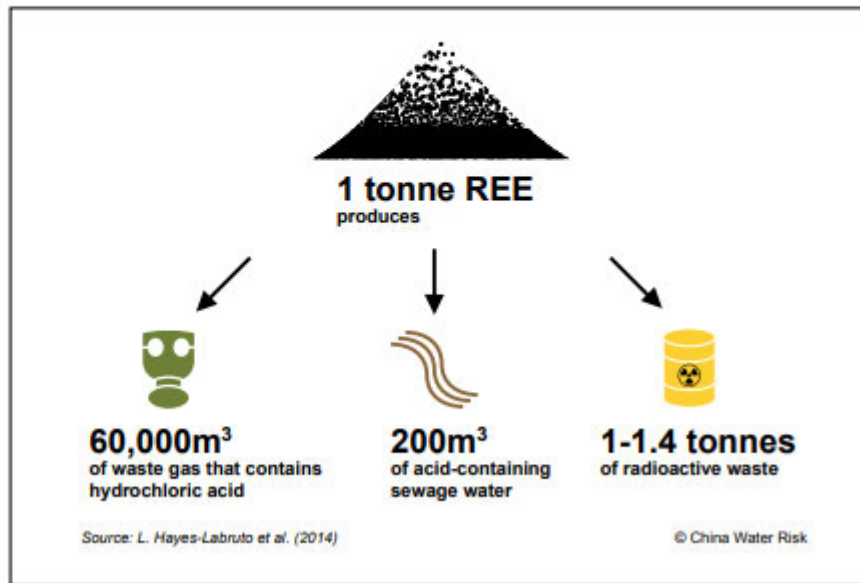
You would have to question why mining for rare earths should be considered when China Authorities are not willing to sacrifice their environment to develop the Rare Earth Industries (Social and environmental impact of the Rare Earth industries- mdpi.com/journal/resources). 88 rare earth mineral producers in Ganzhou (Southern China) 90% ceased operations because of weak commodity price.

With an oversupply, current low commodity prices, potential problems which could be encountered including leaking of piping systems carrying wastewater to evaporation systems, wastes contained radioactive thorium- should have regulatory compliance otherwise should have an immediate disposal plan why would be engage in this form of mining?

Rare earth production & processing comes with toxic waste

As reported by L. Hayes-Labruto et al. (2014), to produce one tonne of REE can produce 60,000m³ of waste gas that contains hydrochloric acid, 200m³ of acid- containing sewage water, and 1-1.4 tonnes of radioactive waste². In addition to water pollution, rare earth extraction, separation and refining consume significant quantities of water, acidic substances and electricity.

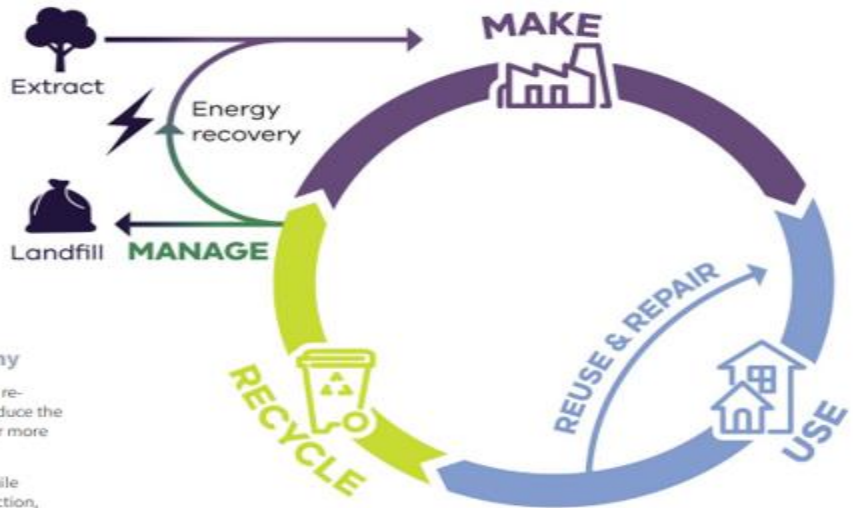
Rare Earth Production Comes With Toxic Waste



Recycling

Manufactured components have a limited life span because of upgrades to technology – would it not be better to look at recycling what is currently in use.

Opportunities exist for reuse and recycling of the materials mined. Focus should be put on inventing new technologies to increase REE recovery/recycling.



The process of a Circular Economy

By extending the life of products through re-use, re-purpose, recycling and energy production we reduce the amount of waste going to landfill and we recover more value from the product.

This also creates new business opportunities while minimising the impact of mining, resource extraction, refining and manufacture. Whilst it is a challenge, if governments, business and communities work together we can "close the loop".

Circular Economy Graphic used with permission from the Department of Environment, Land, Water and Planning (2020) Recycling Victoria: A new economy, The Victorian Government, Australia.

Rehabilitation

Such examples of mine failures emanate all over the world does not resonate a positive image and as such there is not social licence to operation this mine and deliver the “model mine” with is “world best practices” touted by the proponent.

Appendix c Attachment B P 11-2 *Kalbar’s financial provisioning process is linked to the company’s annual budget cycle. During operations, costs and unit rates for rehabilitation and closure activities will be developed at a site level and used as the basis of annual review of closure and rehabilitation cost provisioning.*

Significant rehabilitation figures need to be set and reviewed regularly ensuring others are not left with the financial burden, the value needs to include problems that could develop post mining and remediation of unsuccessful attempts at rehabilitation.

Summary Page 6-22 A draft mine rehabilitation plan was also prepared as part of the EES process (Attachment 1). “*This plan outlines rehabilitation implementation strategies for key areas, including soil and waste management, site contamination and erosion. This plan was developed in consultation with landowners and government agencies and will be implemented by Kalbar during the decommissioning phase*”. Which landowners? We are highly impacted with diversion of two major roads, haul road and a four-legged roundabout on our property but they have not conferred with us.

Draft work plan Appendix D P 27 VL10 *Displaced plantation timber and vegetation will be replaced around properties in consultation with relevant landholders. What would the purpose of this timber be or is it just somewhere to get rid of it out of the mines path? Again, no consultation.*

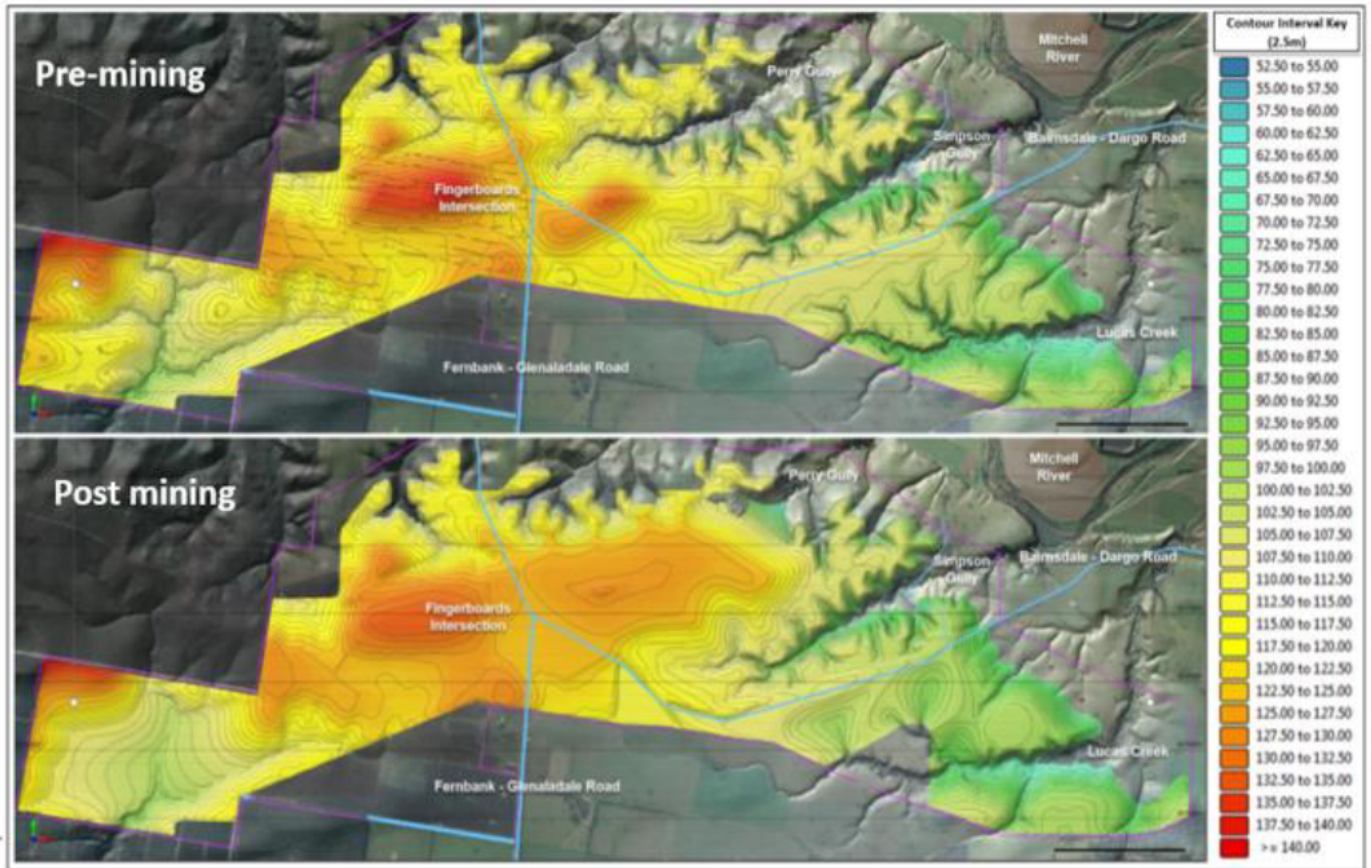
There have been minimal geotechnical and geochemical properties of the project area soils including the potential environmental risks e.g. potential for erosion, salinity, nutrients, and acidification. Studies have been grossly inadequate – and they were only given access to several properties in the project area.

“Proponent demonstrating, they are meeting their commitments and approval conditions returning the land to its former agricultural land use” – the miners’ criteria of suitable rehabilitation are questionable. The rehabilitation will be undertaken by the proponent who has no experience with mining, rehabilitation nor farming.

At the Kalbar meeting 22.08.19 they stated it would cost \$35,000- per hectare for rehabilitation but this needs to be ongoing as the reconstituted soil needs to be able to return to the productivity and structure that it was previously. As a farmer who is aware of the costs of resowing and establishing pastures this figure is very minimal and as the proponent commented there will be “sacrificed crops” but the landowner would be hoping for a successful establishment of pasture.

The information in the EES does not address the implications of adverse long-term monitoring results or failure of revegetation of the mined area. There is an assumption that monitoring will only be required for a limited time and the proposed revegetation will be successful in the short to mid-term. A much longer view will need to be incorporated into the monitoring phase to take account of climate change and extended drought conditions. Monitoring may need to continue for a period of more than ten years.

Landform reconstruction



This progression of the mine shows the filling of Perry gully because of the need to place the overburden somewhere. There is a reason why the gullies are there in the first place. By filling them it will alter the surface water flow across the terrain. Delivering larger volumes of water to the other gullies within the mine site creating erosion, sedimentation, degradation, undermining and subsidence with volumes of turbid water entering the streams and rivers changing the ecology of the river.



It is anticipated that two mine voids of 60ha (120ha) will be in operation at a time but only 80ha can be progressively rehabilitated each year leaving a deficient of 40ha. The table shows that by the anticipated end of mine life at Year 14 they will be behind in rehabilitation 560ha. Therefore, it will take a further 7 years at least to complete rehabilitation.



<u>Year of mine</u>	<u>2 x 60ha mine voids working at a time = 120ha</u>	<u>Progressive total of Rehabilitated area completed</u>	<u>Difference = rehabilitation shortfall</u>	
1	120	80	40	
2	240	160	80	
3	360	240	120	
4	480	320	160	
5	600	400	200	
6	720	480	240	
7	840	560	280	
8	960	640	320	
9	1080	720	360	
10	1200	800	400	
11	1320	880	440	
12	1440	960	480	
13	1560	1040	520	
14	1680(1675ha project area to be <u>mined</u>)	1120	560	Should have completed mining
15		1200		
16		1280		
17		1360		
18		1440		
19		1520		
20		1600		
21		1680		

Is there potential for acid drainage, Net Acid Generation (NAG) testing can confirm that the sulphide (pyrite) enriched sediments are reactive and, if exposed to oxidising conditions are potentially acid forming? If the sediments are re-deposited above the water table and exposed to oxygen, there is potential for pyrite oxidation and the generation of sulphate-rich and possibly acidic drainage.

Knowledge gaps

- Potential for water erosion on constructed landform (drainage lines, valley slopes, back filled gullies) – inadequate assessment of the potential
- Runoff – leachability testing of tailings, overburden, improve sediment settling
- Trail pit has not been commenced (2020 subject to regulatory approval)
- Establishing vegetation communities typical of the pre-European vegetation onsite trail lots have not been established.
- Rehabilitation techniques on visual screening bunds



Photo source Johnston Collection

Cleaning out dams on the project area which have sediment build up in them, and issue that needs to be addressed with rehabilitation



Example of a local dam wall that has failed with the sodic unstable soils of the area – questioning stable rehabilitation.

Photo source Johnston collection

Article on tunnel erosion at Glenaladale – trials unsuccessful in the long term.



Glenaladale Tunnel
Erosion J Sargent |

Designs and processes are needed to demonstrate how the topography of the site will be restored during rehabilitation, including restoration of the shallow aquifers. These shallow aquifers are crucial to the ongoing health of the river, to the endangered eco-systems in the valley floors, and to the long-term viability of the grazing enterprises in the area.



Mitchell River silt jetties – formed from silt loads transported downstream from the upper catchment including Glenaladale



Example of erosion in local gullies

The proponents plan to return mined soil to be put on someone else's land shows the lack of knowledge of varying soil profiles within the project area. If that was the soil horizons we required we would have brought them (land) – but we have nurtured, improved, eliminated pathogens, controlled weeds, drained water logged areas, improved soil profiles to improve our soils to the carry capacity they now have. Compared to the degraded weed infested, eroded soils of adjoining properties who have not had the money or time put into the improvement, development and modifications of the land this is an insult to us – implying that one plot of soil is the same as another – just reinforces the argument that the proponent is only interested in the resource below the surface rather than the long term productivity of the land and its inhabitants including humans, flora and fauna.

How will reconstructed lands capability be evaluated, considered, and measured during progressive rehab to ensure it is meeting the desired outcome?

With the need to utilise large volumes of lime, gypsum and organics in the rehabilitation process how can it be assured that this is adhered to as costs will be substantial and not usually viable – but in this rehab program essential for success.

Unplanned mine closure is not identified in the EES – 75% of mines closures were premature or unplanned resulting mines being left in “care and maintenance” because of issues such as high

costs of operation, fall in commodity prices, environmental causes, safety reasons and regulator compliance. Why was this not included in the EES assessment document?

This EES assessment of the rehabilitation of the land is done on predictive estimates not accumulative impacts, follow up on assessments of the success or failure should be enforced.

Removal of vegetation

Removal of 1.74ha Gippsland Red Gm Grassy Woodland and Associated Native Grassland ecology community located in centre of proposed mining are within road reserves of Fernbank-Glenaladale Road and Bairnsdale-Dargo Road. This is vegetation of significant habitat for many species including nesting for owls, currawongs, bats. Offsets will be sought but where will these species go in the interim or will they just pack their suitcases and leave the area?



Roadside vegetation to be cleared – significant habitat trees home to many species

Removal of 11.57ha of the state significant Forest Red Gum Grassy Woodland ecological community. Plus, an additional 1.37ha for roundabout construction at Princes Highway- Lindenow-Glenaladale Road and 1.9ha Princes Highway-Racecourse Road intersection roundabout.

The removal of this vegetation to mine the resources underneath and then relocate the roads back to similar location seems like environmental vandalism – only for the benefit of the shareholders not for the fauna species and the community that lives and enjoys the area as it is for its ecological value.

Statements such as in section 9.12*area of EVC to be lost due to project 182.4ha...is small compared to extent in region* – is derogative statement an accumulated effect for other such projects within the bioregion would have an increasing impact.

The removal of over 788 large trees is a significant loss to the area and threatens the survival of these ecological communities, increases fragmentation, and removes wildlife corridors.

River systems

Repercussions on the Perry and Mitchells River and Gippsland Lakes systems from mining could have negative impacts as noted by the East Gippsland Catchment Management Association as identified altered freshwater inflows on the Gippsland Lakes system and their associated habitats would have these consequences:

Reduced discharge

- Loss of saltmarsh habitat
- Nutrient deficiencies in saltmarshes
- Reduced upstream fish migration
- Reduced access to juvenile fish rearing habitat
- Lack of environmental triggers for fish spawning or movement
- Reduced recruitment of fisheries to estuaries
- Reduced production of fish and other aquatic animals (fin fish, bivalves, crustaceans)
- Reduced foraging and nesting habitat for birds
- Altered water temperatures
- Potential for hypersaline waters to develop in adjacent wetlands/saltmarshes
- Seagrasses colonise upper reaches of estuary
- Decline in some seagrass species (e.g. less salt-tolerant taxa)

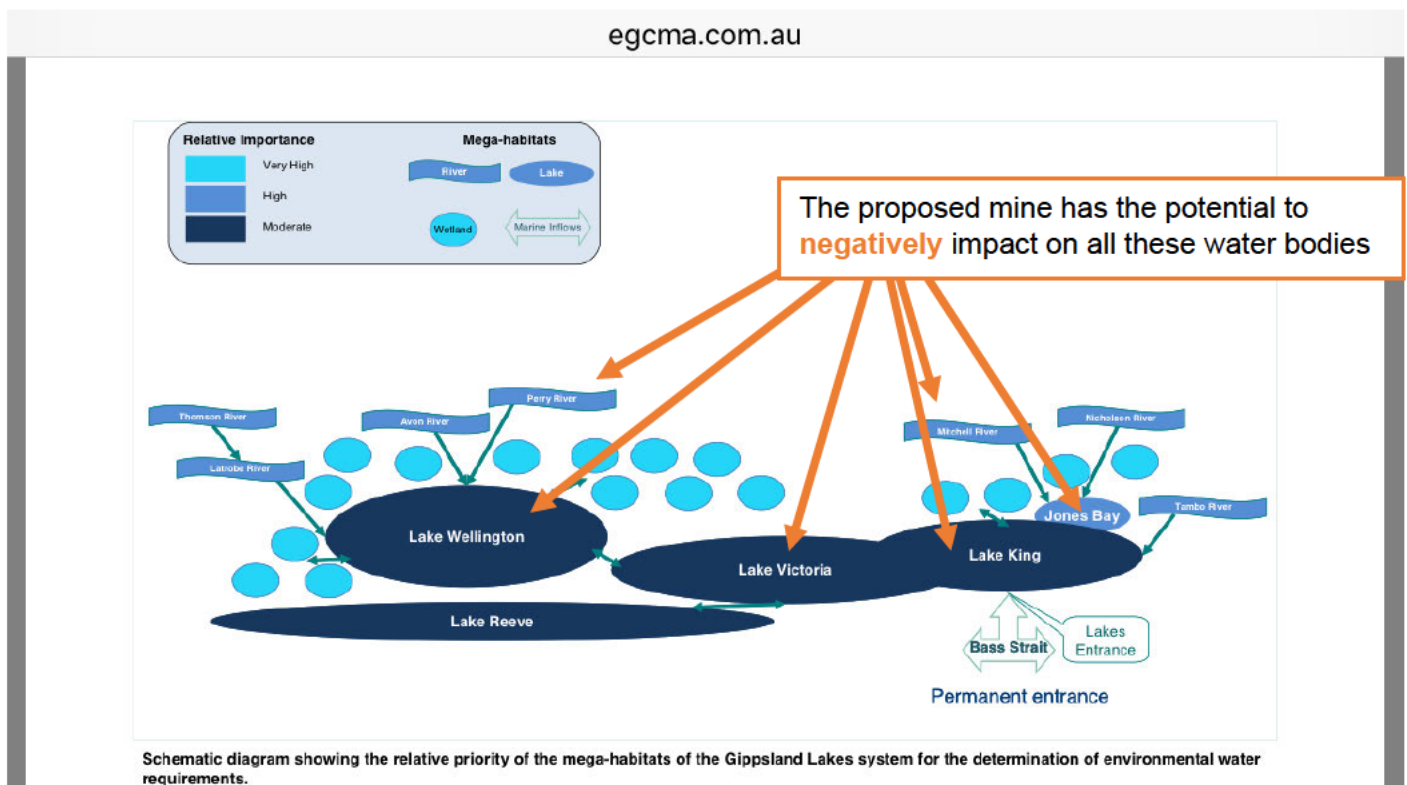
Altered sediment load and disposition

- Altered abundance of turf-forming algae (via bottom-down and bottom-up impacts)
- Decreased recruitment growth and survival of macroalgae
- Altered abundance and diversity of meiofauna (i.e. sediment dwelling invertebrates)
- Interference with filter-feeding macrofauna (e.g. mussels)

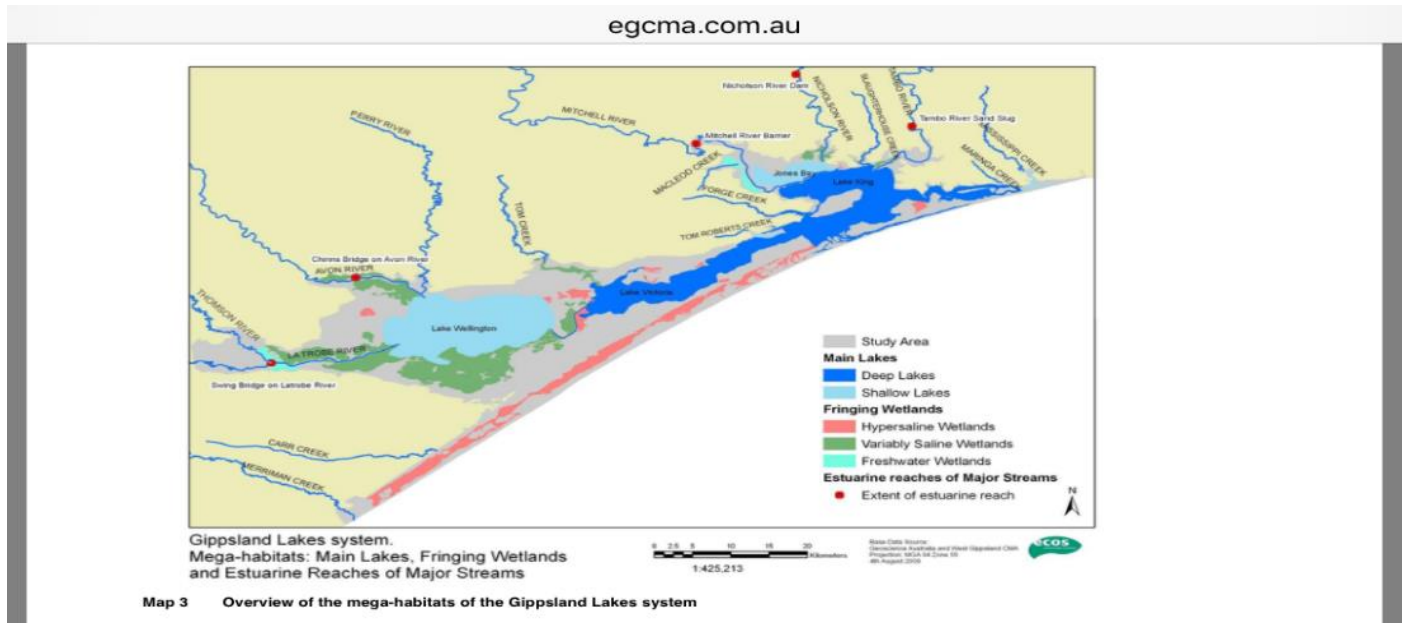
Increased water clarity

- Increased predation on fish by waterbirds or by other visual predators
- Increased depth distributions of seagrasses
- Increased growth of microphytobenthos
- Altered water temperatures

Too much is at stake with this mine proposal – the recreational fishing and tourism economy in this region should not be compromised.



Locality map of rivers and lakes



Road diversions

The project anticipates the following road diversions and states the proponents loss of income if they could not be utilised but does not identify the beneficial users losses (flora, fauna, residents, visitors, aesthetics, biodiversity, clean air) :

- Bairnsdale-Dargo Road 10.61 ha native vegetation (vulnerable Plains Grassy Forest EVC and the endangered Plains Grassy Woodland (EVC) (*EPBC Act + FFG Act*) protected under EPBC Act. 42 Large trees, for 34.5Mt of ore with a loss of \$216million in cash flow
- Fernbank-Glenaladale Road 4.45ha native vegetation (vulnerable Lowland Forest EVC, vulnerable Plains Grassy Forest EVC, endangered Plains Grassy Woodland EVC, Vulnerable Valley Grass Forest EVC. 39 large trees, for 2.5Mt of ore with loss of \$42.9 million in cash flow
- Critically endangered Gippsland Red Gum Grassy Woodland (FFG Act) and Associated Native Grassland ecological community (EBPC Act) Fernbank-Glenaladale Road and Bairnsdale -Dargo Road.
- Second heavy vehicle underpass allow access to ore in southeast corner of project in year eight during the permanent relocation of the B=D Road to the east of the new Fingerboards roundabout.

It is hard to believe that the vegetation, landscape, and trees to be removed are looked upon as not having a \$ value yet the resources reigns overall supreme with a \$ figure worth. These vegetation communities are becoming increasing scarce, the habitat within them support a vast ecological community, they provide food, shade, shelter, breeding sites and are valued for their visual presence.

The noting in the EES of“Cyclists using roads- improve the shoulder so cyclists can be safer, also improvements can be made at intersections so that it is a safer design for cyclists”. The low volumes of traffic on the roads allow adequate space to share the road between cyclists and vehicle drivers” ... is incorrect the reason the cyclists use these roads is because of the scenic routes, quiet environment, minimal traffic, undulation of cycle route, and areas they can stop and

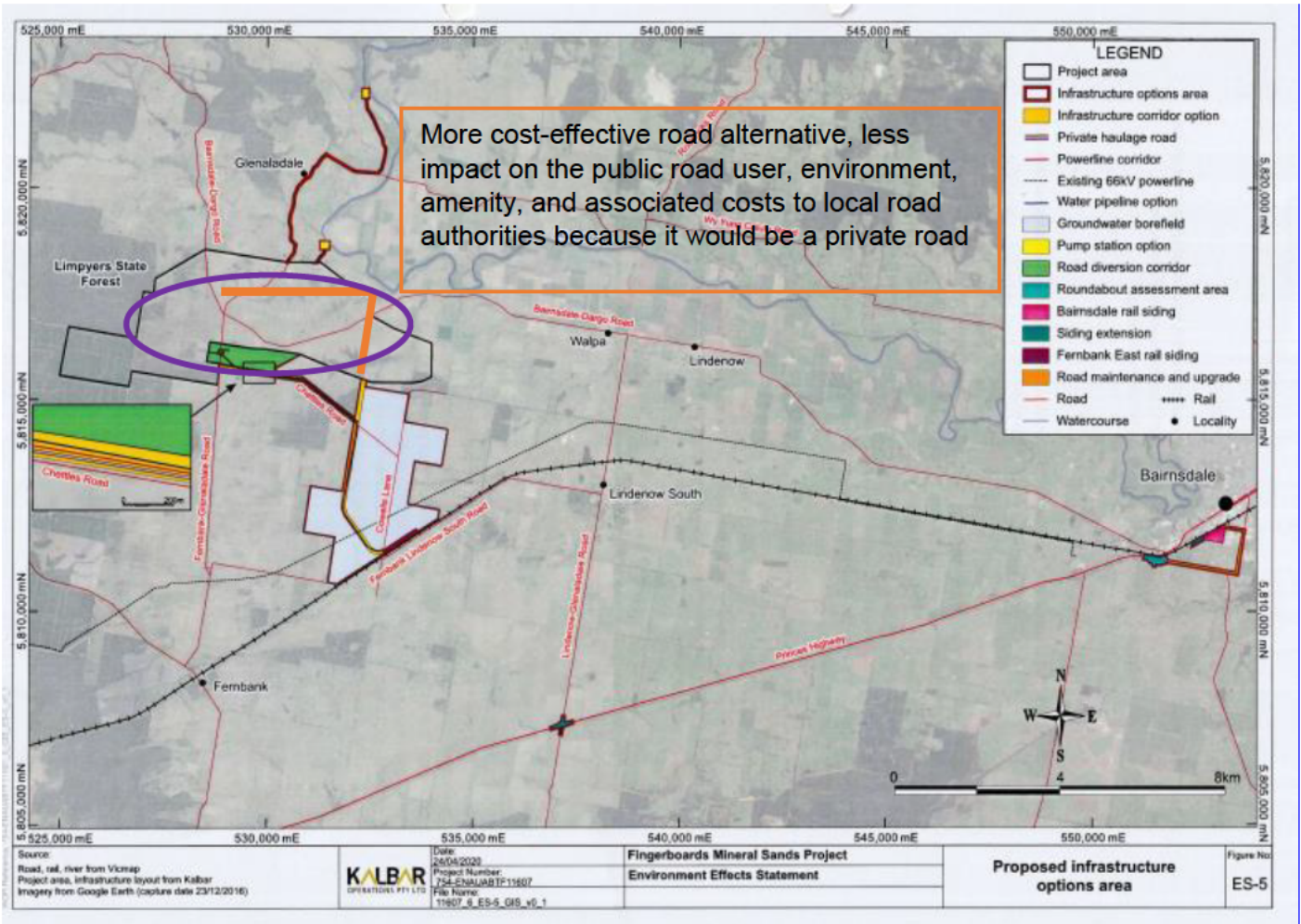
rest. The same would not be happening if a mine and mine traffic were encountered on their preferred cyclist routes.

The Crash data that was used in the EES is not specific to roads utilised within the mine footprint, most incidents are of a minor nature and are not recorded. Most involve single vehicle accidents and encounters with livestock, and this will only increase with the inclusion of 80 B double trucks per day and ancillary mine traffic.

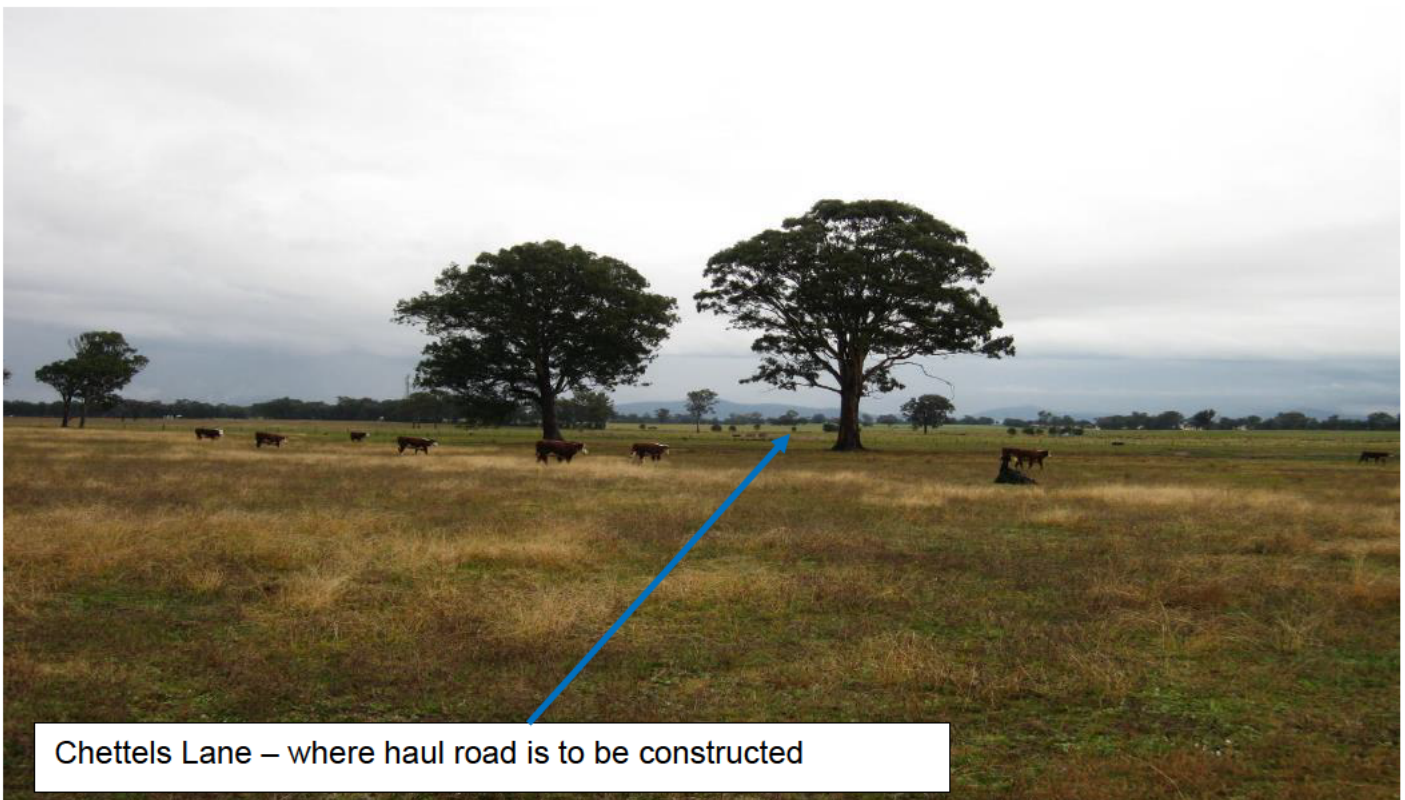
Traffic counters have not been utilised to record the volume of traffic currently – why not?



Bairnsdale-Dargo Road EVC vegetation to be removed so the road can be mined through. This road will be relocated to the foreground



Why doesn't the proponent utilise the unused road from the bore field that extends onto the Bairnsdale-Dargo Road from Cowell's Lane then continue the haul road up through the mined out area on the south side of Bairnsdale -Dargo Road to the processing plant – this route would have less impact on the public road users, not require removal of a large number of mature trees, not require a planning scheme amendment or an acquisition overlay.



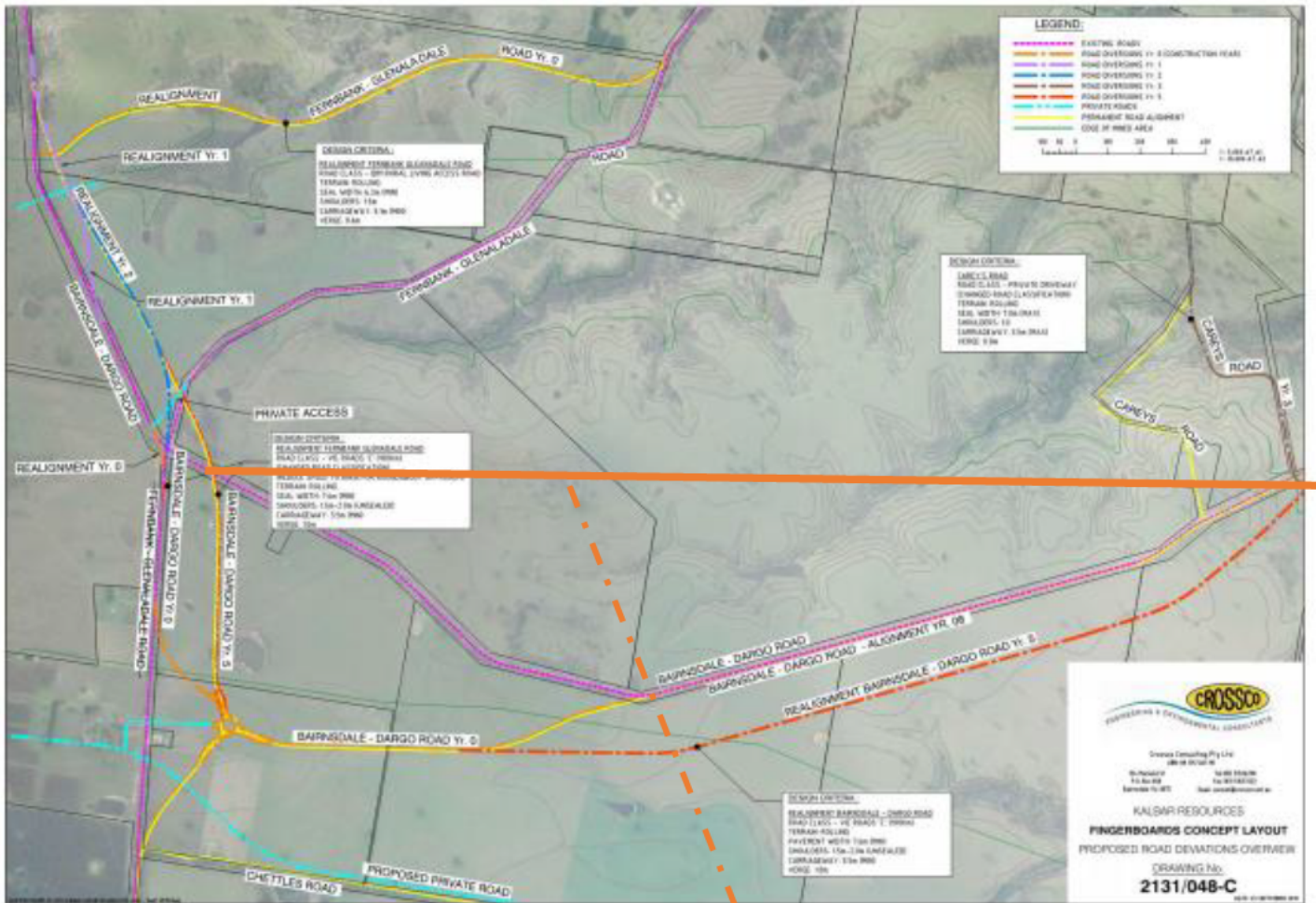


Figure 10 Overview of proposed road network diversions and staging

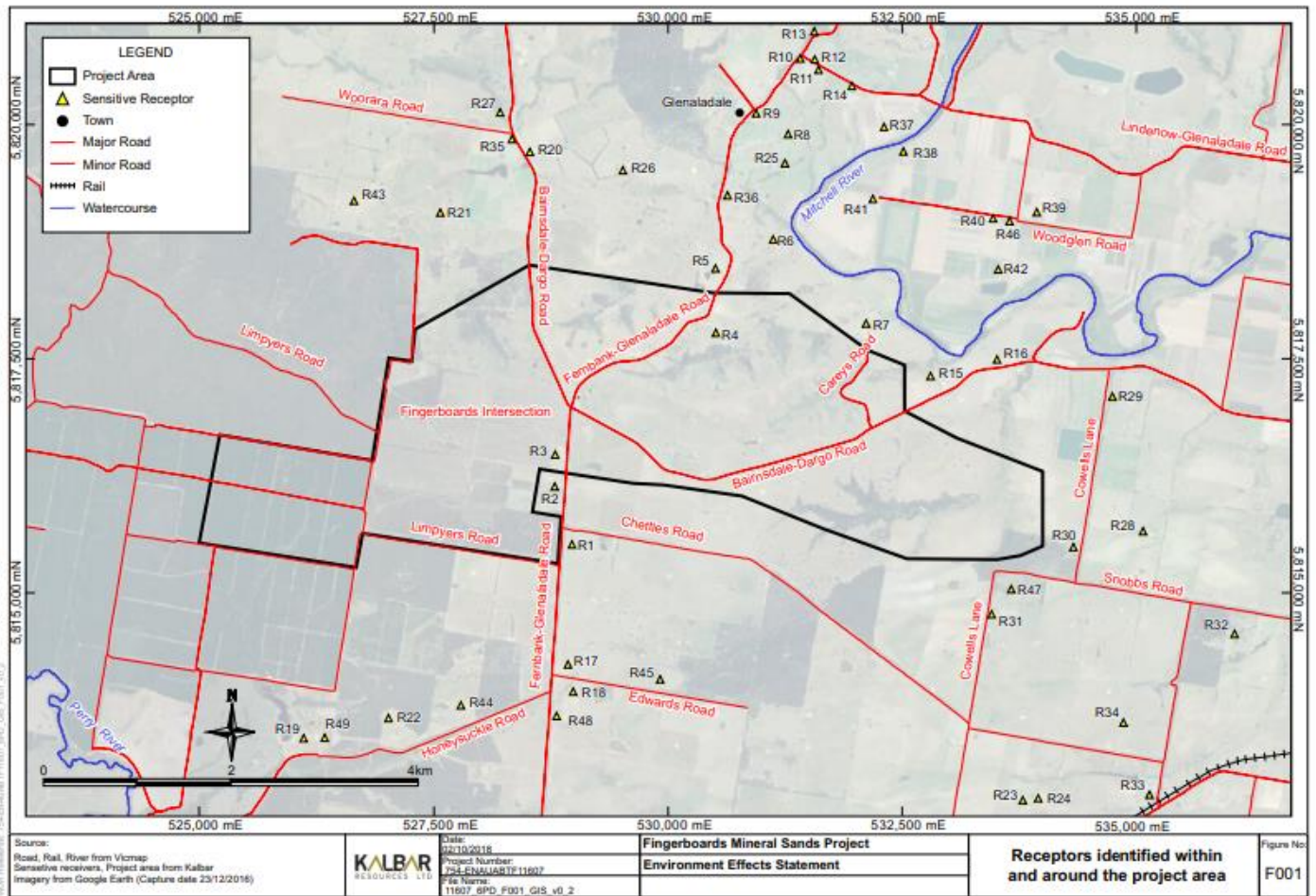
Suggested alternative haul road

Is the suggested road diversion put forward because this landscape is cleared and free from vegetation and shows the proponents disrespect for the landowner, if the area were extensively covered with vegetation would the proposed road diversion even be considered?



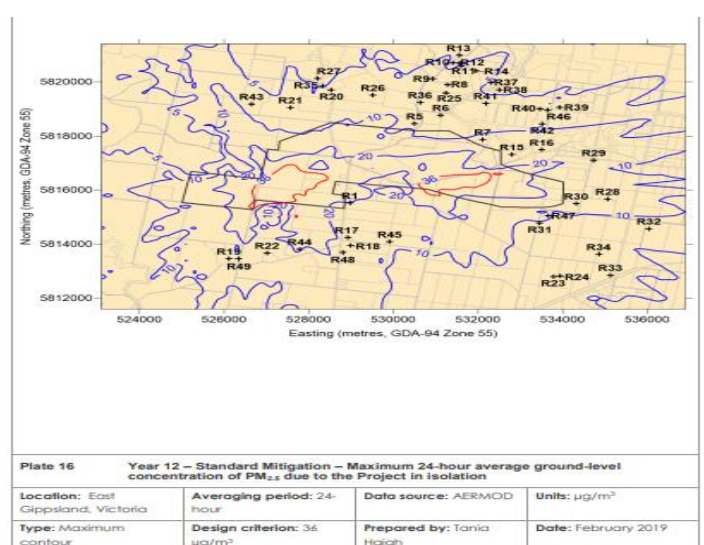
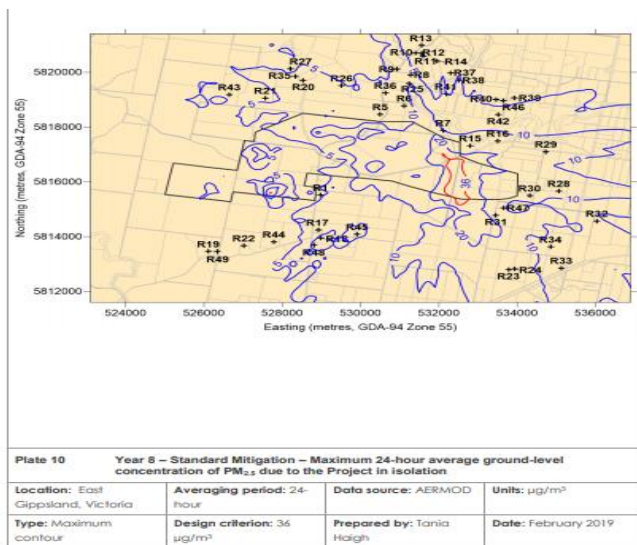
Diverted road to go through House, shearing shed and outbuildings

Sensory receptors



The proponent identified 49 receptors around the project area, but in an independent survey conducted by MinefreeGlenaladale that figure was 81. Being 81 residences in the sensory receptor range the number of occupants in each home should have been considered and the population figure ascertained.

With prevailing winds from the north-west not accurately detected with the installed metrological equipment a significant population of the area will be affected.



These ground level concentrations are not acceptable to the Community and residences that will be impacted from the mine, even with the progression of the mine in different directions and the promised rehabilitation of the mine the impacts and intensities are not diminishing.

Socio Economic

<u>What appeals to you about living here</u>	<u>Issue</u>
Peace and quiet	Natural noise/ acceptable noise not constant droning noise from machinery and artificial lighting which will affect the residents, livestock and native animals and birds
Rural land	We are beef producers – this is where we produce food and fibre that feed our Nation, and which is also exported to overseas markets
Community	Our family has always engaged in this Community through work, recreation, socially and has committed to improving and maintaining Community infrastructure including Tennis Courts, Netball Courts, Bowling greens, cricket fields, Halls, Schools, Kindergartens, Churches
Inheritance	We intend to keep it
Family connections	Third generation farming family who have brought and developed properties to grow their farming enterprises. Generations of hard work, financial commitment, endurance, innovation, and foresight.
Landscape	Appealing visual amenity of the area which attracts many visitors
Mitchell River	The life blood of our region, fresh clean water, free flowing, utilised by the horticultural industries and supplying household water to 29,000- households and 3,500 commercial properties from Lindenow to Nowa Nowa
Perry River	Unique Chain of Ponds system ultimately flowing into Lake Wellington, McLennan Straights and into the Gippsland Lakes
Safe secure environment to live within	Being part of a Community who engage and look after one another – we question if the mine proceeds would this cohesion still exist

“Victoria has a higher population density than the other larger mining states and faces some challenges with so much of our land used for homes, high value agriculture and parkland. It is important in this context that all projects build a social licence within local communities to proceed.” Statement from Mr Pallas

The impact and concerns of this mining proposal from the Community was evident in the large number of submissions into the scoping studies presented, and the East Gippsland Shire Council concerned enough to move a motion to call for independent review of the EES.

Stakeholder / Community engagement

Consultation	Adequacy of consultation
90 people have visited the dedicated project office	They have had an office in Bairnsdale for over 5 years that is not many interactions. The times we have been there would account for 10% of that figure. The office is still closed following lifted restrictions in the State enforced COVID-19 working requirements – it could be open now observing social distancing, but it is not. Why? Particularly now when people are trying to ascertain

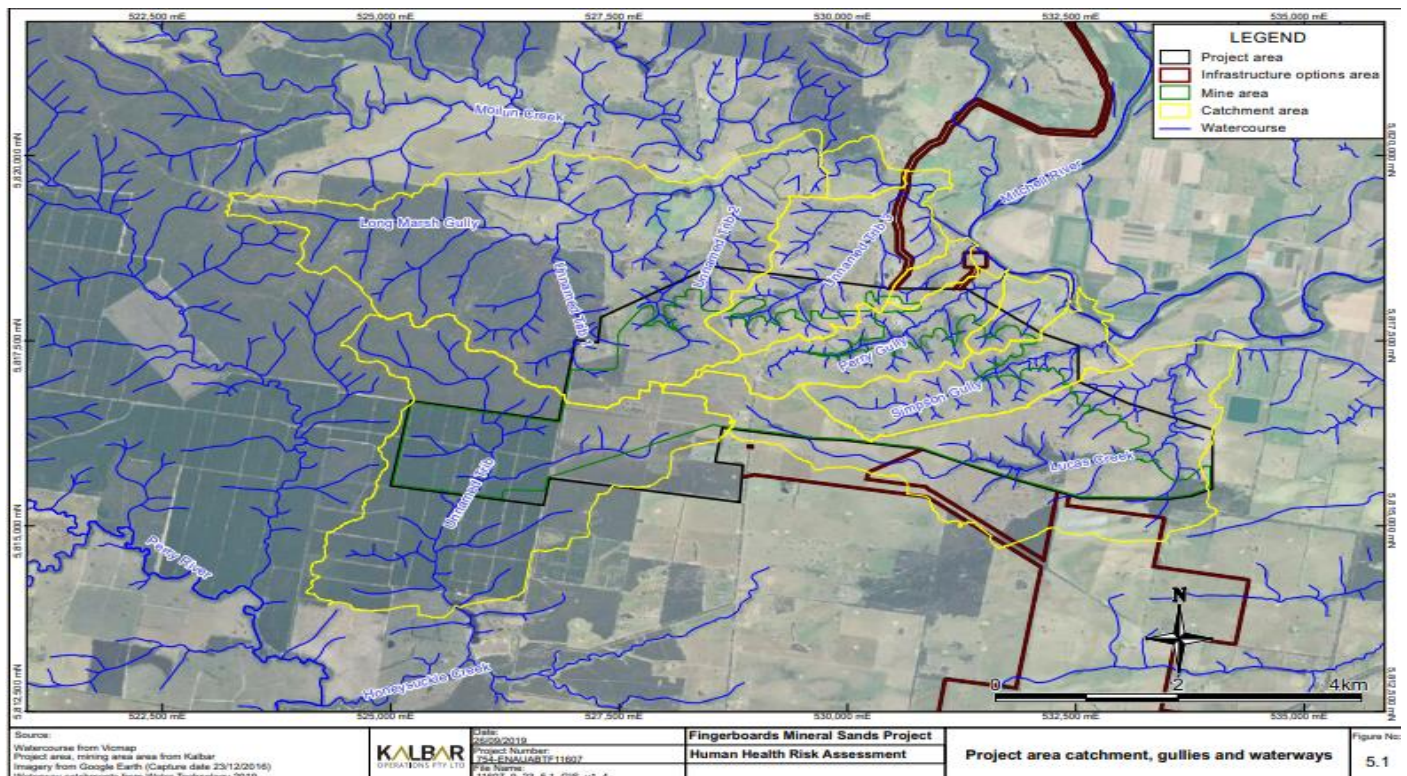
	information in the preparation of their response to the EES.
Community information session held at TAFE December 2019 to discuss Independent peer reviewed subjects	Again, the findings of the independent review were not discussed instead they asked you for information.
Community Information Sessions	Lack of detail given on project staging/ progression and scheduling including direction and timing of mining across the site and during its operational life.
Open and transparent process ?	19 Surface dam's concepts not publicly presented
Diversion of roads and haul road scenario	not advised to the public
Presented in the EES not discussed not advised publicly nor to impacted landowners	PSA C156 amendment and PAO

Statement in the EES document*Workshop to provide an overview of the Socio Economic Impact Assessments process and respond to queries raised on the study - the presence of these Coffey representatives is acknowledged to have potentially affected the responses provided by community members at the workshop. Yes, perhaps the Community did not appreciate the proponent's representative sitting at each table and the Coffey employees prowling the room like a predator.*

Because of the proponent's attitudes to consultation and the Community they were not allowed access to many properties for assessment

The proponents ineffective Community consultation interactions show they unable to give consistent accurate, detailed, scientific, informed information, are reluctant to speak to the Community in which they intend to operate. Choosing to set their own parameters on who they choose to engage with rather than the Community as a whole.

Surface water capture/extraction



The proposed mine taking the surface water from the watershed of the mine catchment is prohibiting other users of the resource. Also:

- Reduced flow and frequency to Mitchell impacting licenced and other users including public, water dependent ecosystems (River and Gippsland Lakes)
- Altered topography and surface water flow, altered catchment size increased flood risk impact on surrounding land uses
- Spillway discharge from sediment ponds increasing erosion, sedimentation of onsite gullies, creeks impacting on beneficial users
- Lack of surface water quality and flow monitoring within the project area
- Volumes of water being managed around the site at any one time are nearly 3 times the annual inputs required, there is considered to be significant risk in any change in mine plan and no detail on how risk will be managed.
- Water trading market is acknowledged to be competitive and entering the market could raise the price of water for other licenced users.

Surface Water in Victoria is also governed by the **State Environment Protection Policy (Waters of Victoria)**, which sets the framework to rehabilitate Victoria's surface water environments. The SEPPs set out environmental quality objectives and indicators to measure whether beneficial uses (e.g. drinking, industrial use and aquatic ecosystems that a waterway or waterbody can support) are being protected.

2c.docx

Appropriate compliance and outcomes monitoring needs to be enforced and the results made publicly available.

Sustainability

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs.

The EES is all based on historical information (business as usual) rather than using predictions for the future condition (e.g. CSIRO climate projections, global warming reports, world population predictions, and high intensity rainfall events that can occur in the mine area). Adequate measures must be put into the planning process for predicted future condition, for a business that expects to operate for decades. Future climatic and economic condition affects :

- Fuel and energy supply – costs and availability
- Carbon 'offsets'
- Water availability
- Wind speed and dust and radiation hazard
- Storm events and run-off
- Worker OH &S with expected higher temperatures
- Transport
- Ability to fully reclaim/rehabilitate soil, landform, and biodiversity condition

Tailings dam



Iluka's pit 26 tailings dam at Balmoral in Western Victoria – this is not the legacy we want to have in our Community.

“Placement of tailings in the mine void is predicted to result in seepage (with elevated concentrations of dissolved metal and contaminants) to the unconfined Coongulmerang Formation aquifer which has the potential to alter stream hydrology in the Mitchell River, reduce water quality in the Mitchell River and/or Perry River and adversely impact biodiversity values of the Gippsland Lakes .”

Fine tailings reduced to 35% solids will lead to groundwater mounding, high seepage rates could alter groundwater flow paths, locally raise groundwater levels at GDEs, altering flow rates at the Mitchell River EMM (2020b) predicts 1.1% (0.72ML/day) increase in baseflow

There are no details of spillway requirements, free board depth, foundation preparation or embankment volumes.

Diversion drains – surface water run off diagrams, outlets, infrastructure designed for safe and controlled release of water, drain configuration and volume/flow figures not included – does not meet the scoping requirements.

Ground water mounding impacting on dam structure weakening their stability.

Greater evapotranspiration occurs in the vicinity of the tailings dam cells due to the increased mounding from seepage.

There is no discussion on transporting of tailings from temporary tailings facility to tailings dam within the mine void.

Tailings dams and their toxic reservoirs require maintenance forever. Even if there is no catastrophic failure, these dams and their surrounding infrastructure can cause ecological harm in multiple ways. They require artificial water diversions and releases, which upset natural flow patterns in surrounding streams and modify water temperature and concentrations of metals. And polluted groundwater seepage from unlined reservoirs or failing liners is often hard to detect and treat.

These ecosystem modifications directly affect organisms on land and in the water downstream. Every decision to allow a mine to proceed with a tailings storage facility indelibly transforms rivers and their ecosystem for hundreds to thousands of years.

In contrast to more conventional water storage dams, which are licensed and built for a finite operating life, tailings dams must hold back their slurry forever. The likelihood of leaks or dam failure compounds over this multigenerational period as facilities age and projects no longer generate revenue.

Regulators should take a measured and cautious view of current and planned tailings facilities. Dam failures are increasing in frequency, and often are so large that true clean up or reclamation is not possible. Before more are built, we need independent science to provide a means of honestly assessing the risk of storing mining waste.

Thorium is a principle radioactive component of Monazite which has potential to leach into water bodies – including drinking water supplies.

Long term presence of thorium residue in tailings can take thousands of years to disperse.

Tourism

Tourism in East Gippsland attracts:

- 1.2 million visitors per year
- 650,000 domestic visitor nights
- 450,000 international visitor nights (a significant export industry)
- \$368 million spending by visitors
- Tourism employs 1 in every 13 Australians
- 44 cents of every tourist dollar are spent in regional Australia
- Regional tourism overnight stays increased by 6% in 2017-2018
- Recreation fishing to the Gippsland region is worth \$381m supporting 2422 jobs VRFish

International or interstate visitors are attracted here because of the Lakes and natural scenic attractions they either fly into Melbourne or drive here, they will be paying for accommodation and contributing to the local economy for the duration of their stay – their spending spreads further than Gippsland. We cannot afford to compromise the tourism industry that is a gross regional earner.



Traffic

The reviewed roads were assessed at a desktop level as well as during site inspections in May 2017 and October 2018 and from the study area of this assessment

Crash data of casualties occurring in the last 5 years were identified but not minor incidents.



Current road conditions – narrow shoulders, blind curves

The thought of putting 80 returning B Double trucks on the Princes Highway with the narrowed road width because of centre road barriers and the current regularity of accidents involving large trucks will only increase the potential hazards to other road users. When there is an incident on the Princes Highway the traffic is regularly diverted through Fernbank and onto the Bairnsdale-Dargo Road to go through to Bairnsdale. These road users are unfamiliar with this country road, its inferior road surface, less sign posting, narrower widths, no lighting at night, interacting and sharing the road with other wider agricultural machinery, and encounters with animals including native animals.

Roads traffic and transport risk assessments did not consider impact from animals both native and domestic.

The risk assessment of transport safety shows mostly high to major inherent risks are associated with the changes to roads envisaged with road sections at Princes Highway/Racecourse Road, Princes Highway/Lindenow-Glenaladale Road, Bosworth Road/Bairnsdale rail siding access, Racecourse Road, and Forge Creek Road – with so many major hazard sites the danger to other road users is paramount and should not be considered.

During construction, operation, and closure phases of the project impacts on other uses of the public roads will include:

- Traffic delays, increased risk of crashes due to road work diversions, upgrades, roundabout constructions, haul road construction, straitening, relocation, increased workers and mine related traffic, channelized right -turn treatments, increased crashes with heavy machinery/trucks on rural roads, pavement deterioration, compromised pedestrian safety, road lighting at intersections, and speed limit reduction.,
- In the risk assessment transport safety – it is noted a major hazard exists at the intersection of the proposed Fernbank-Glenaladale Road/Private Haulage Road with B Doubles crossing regularly
- High risk private haulage road/Chettels Road and private Haulage Road/Cowells Lane increased crash risk requiring 20-30m road sealing either side
- Inspections, monitoring for efficiency, transport safety, asset performance, further monitoring does not include consideration for landowners' inconvenience and impacts
- Standard mitigation measures have been noted for the identified impacts. There are typically generic measures (not specifically developed for the project) and typically relate to minimum practice or legislative requirements. Better consultation with residents, landowners, road authorities should have been done
- Increase in heavy vehicle traffic in Lindenow South by 108%
- Roads are scenic tourist roads they will not be if the mine goes ahead

“It is yet to be confirmed if the road diversions are temporary or permanent, as this will depend on negotiations with the landowner and the relevant authority. Permanent diversions would require the acquisition of private land. This process would need to consider compensation/acquisition of any small or narrow section of land that become unviable for agriculture due to isolation from the remainder of the farm”.

Water supplies (Household)

*The maximum predicated dissolved concentrations of **metals** in harvested rainwater in an off-site tank, associated with project related dust, is predicated to be negligible (1×10^{-10} mg/L per year)*

The EES identifies household water tanks will collect 6.1kg of dust sediment per year per 10,000 litres, this volume will increase in the tanks exponentially requiring them to be cleaned out regularly which is an onerous task requiring replacing the existing water supply. – most residents who are on tank water have no other form of water supply. Every human has the right to clean, fresh, clean air and water.

Weather



Proponents weather station on the project area. Note the site has a treed windbreak on the south side, vegetation, house and shedding on the north side and dispersed vegetation on the west side.



Rainfall records.docx

Rainfall records comparing Glenaladale- Lindenow and Nindoo's figures

- A common occurrence in this locality is the notification from Vic Emergency of a strong wind warning to the Glenaladale area this is a regular indication of the strong winds we experience.
- Wind comparisons i.e. Mt Moornapa registering NW wind @26kph gusting to 63kph at the same time as Bairnsdale's figures were 15kph gusting to 46kph. Yet the consultant claims that average maximum wind speed for the area is 41kph. It is noted the monitors were not working 22.3% of the time – which was because of lightning but during that time frame we did not have lightning – weather monitoring modelled on terrain, air quality, topography, and noise
- Rainfall over the pit area 13.5ml per ha or 675ml for 50ha = 3,376ml per year for 5 x 50ha pits.
- It is inadequate to undertake specific local wind monitoring over a relatively short period of time
- wind roses at East Sale Airport and Bairnsdale Airport are representative of prevailing winds in the area. These both show that the same dominant wind direction and with the strongest winds from W/NW/SW. Time period is from 1943 to 2016 for BOM Sale Airport and 1942 to 2020 at Bairnsdale Airport.

What if scenarios

Have they considered if things do not go as planned - welcome to the real world! What are the options if?

- Mine is anticipated to last 15-20 years but what if it only lasted 5 years
- What if it went into care and maintenance for several years or indefinitely?
- Resource became uneconomical to mine
- Regulatory authorities halted mining
- Environmental impact floods, drought etc occurred
- Mine accident occurred

- Environmental accident – tailings dam failed, landforms subsided, dust impacted residents, or other local business
- Pandemic - limiting workforce, transportation, exporting of resource