# Submission Cover Sheet

## Fingerboards Mineral Sands Project Inquiry and Advisory Committee - EES

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**Request to be heard?:** No - but please email me a copy of the Timetable and any Directions

**Full Name:** Jennifer Wilkinson

**Organisation:**

**Affected property:**

**Attachment 1:** Fingerboards_Min

**Attachment 2:**

**Attachment 3:**

**Comments:** see attached submission

Dear Inquiry and Advisory Committee members

I am making this submission as a long-time East Gippsland resident and farmer and keen observer of planning in the region. I believe the Fingerboards Mineral Sands Project is totally incompatible with existing uses and communities in this region and should be completely rejected. I believe it would be irresponsible for a Government to permit a proposal that cannot guarantee health and safety to surrounding communities because the levels and impacts of air particulates and water contamination generated by the mining activities cannot be accurately predicted.

The proposed open-cut mineral sands mine and processing facility threatens the successful agricultural and horticultural production and popular tourism businesses in the East Gippsland region and it jeopardises the physical and mental health of surrounding communities. In addition the proposed mining activity threatens the natural beauty, clean air and water, and intrinsic peace and ambience of the whole East Gippsland region.

There are numerous issues that make this mine incompatible in this region but I will focus my submission on what I believe to be the two most serious impacts of the project, Dust and Water.

DUST

- As the mining proponent Kalbar Operations Pty Ltd acknowledges, the proposed mineral sands mine and processing operation will generate significant air particulates that contain radioactive substances.
- The proposal location is on a coastal plain, locally called the Red Gum Plains which is known by all residents to be consistently windy due to the prevailing westerly wind. As a keen sailor on the Gippsland Lakes I am observant of wind, and constantly frustrated by strong wind causing cancellation of Gippsland Lakes Yacht Club races.
- The wind monitoring site and time frame used for analysis of air quality and dust dispersal from proposed mining and processing operations was not representative of the area, and should be redone and expanded to cover a wider area and time frame.
- In addition the unpredictability of weather and climate in a climate change scenario means there is no possibility of accurately predicting dust levels or dispersal. Experience reported from other open-cut mining operations has shown that even if dust was kept at PM2.5 of 25, the physical and mental health of residents in the adjacent areas would be impacted. Indeed, dust created in similar open-cut mining and processing operations has caused evacuation and health issues in areas far from the dust source rendering them unfit for human habitation.
- Compounding this direct human health impact, the risk of air and water contamination by dust generated by the proposed Fingerboards Mineral Sands Project threatens food production in the Mitchell River valley and beyond. Indeed dust from open-cut mining and associated earthworks of the Project will threaten the very fabric of this fertile valley, its multitude of agricultural employees and the neighbouring communities.
- It is stated that dust will be suppressed using water and 400 ML/year has been allowed for dust control, but EEM has calculated that 375 ML will be required for the road works alone. Dust suppression cannot be guaranteed when wind, humidity and other factors creating the dust cannot be predicted.

- The health risks of inhaling Particulate Matter (PM) are well documented. (For example, numerous studies link particle levels to increased hospital admissions and emergency room visits and even to death from heart or lung diseases. Both long (over years) and short term (hours or days) particle exposure have been linked to health problems. https://www.health.nsw.gov.au/environment/factsheets/pages/mine-dust.aspx).
- In addition, dust generated by mineral sands mining and processing contains radioactive materials and at least four known carcinogens rendering it toxic to human health. (The Western Australia Department of Water and Environmental Regulation states that *Mineral sands mining and processing may result in the concentration of Naturally Occurring Radiological Material. This can produce radiological risks.)* One asks what are the risks posed by dust contamination on food produced in the region when weather conditions and other uncontrollable factors cannot be predicted? The risks are also unknown of dust contamination of water supplies including rain water tanks that supply home drinking water and the Mitchell River catchment which supplies town water for the whole region. Indeed Woodglen Reservoir where domestic and commercial water is stored for the whole Shire is 3.5kms downwind from the mine.
- The Mitchell River has a special listing under the *Heritage Rivers Act 1992* due to its rich ecological and cultural heritage and unique social and recreational value, a value set to be compromised by increased water commitments and dust and leaching contamination.
- The unpredictability of weather and climate in a climate change scenario means there is no possibility of accurately predicting dust levels. Experience from other open-cut mining operations has shown that even if dust was kept at PM2.5 of 25, the health of residents in the adjacent areas would be impacted.
- Dust contamination of vegetable and fruit products and wool and beef and lamb due to pasture contamination, would destroy the clean green reputation and marketability of the highly productive agricultural and horticultural production that the Mitchell River valley areas are known for. The fertile horticultural area of the Mitchell River valley has been given a guarantee for future food production by the Victorian State Government but what food safety guarantee is there for the produce?
- Tourism is crucial to the whole East Gippsland region particularly the towns surrounding the Gippsland Lakes NP. Open-cut mining and processing is not compatible with tourism. What tourist would want to come to noisy dusty East Gippsland? This Fingerboards Project therefore threatens the viability of a wide range of local businesses and jobs in Bairnsdale and areas surrounding the Gippsland Lakes, a region already impacted by drought, summer bushfires and the Covid-19 pandemic.
- Reports from existing mineral sands mining and processing operations provide clear evidence that dust pollution to neighbouring properties will render these properties unliveable. How far this unliveable area extends cannot be assessed due to the unpredictability of dust and noise factors. Further, as the Fingerboards mineral sands deposits are at considerable depth, dust generated by the removal and storage of the substantial overburden is set to be extreme and will be compounded by the prevailing wind. Predicting how extensive the area impacted by dust will be is not

possible but communities east of the mine site including the regional town of Bairnsdale (some 20 km from the mine site, population 15,400+) as well as Paynesville and other towns on the Gippsland Lakes are expecting the worst.

WATER

**Surface water**

- Regarding winter fill for storage dams in the Fingerboards Mineral Sands Project, water for winter fill can only be pumped from the Mitchell River from July to October when Mitchell River flows exceed 1400 ML/day but there are many days in the last couple of years when the flow was much less than this. How is it that the numerous local irrigators who have long-term applications pending for winter fill licences have been unsuccessful? On what basis would a winter fill application by the Fingerboards Project be granted?
- As local irrigators with Mitchell River water irrigation licences know, drought in the area is a frequent occurrence causing river levels to drop to the minimum environmental flow resulting in irrigation restrictions and an inevitable irrigation ban until flow levels rise. Similarly residents in the expanding East Gippsland region supplied by Mitchell River water, are restricted on water usage during summer drought which occurs most years. With the increasing impact of climate change and greater demand for water from the Mitchell River from irrigators and an increasing population in the region, there is no certainty about future water reliability, even without the demands of a mining operation.
- Flooding of areas below the mine storage dams is a risk if the 1 in 100 year dam design means it would overtop in a rainfall event occurring once each 100 years; therefore over 15 years there is 15/100 chance that this will occur (15% chance or 1 in 7). What impact would this overtop have on the area below the dam?
- The water model usage proposed by the Fingerboards Mineral Sands Project depends heavily on how much water can be recycled but due to unpredictable factors there is no certainty in the volume that can be recycled. As an indication of the uncertainty, in a similar project Rio Tinto proposed this tenement but it did not meet their criteria and they gave another company, Oresome, the option to purchase, but they decided they would need 4.6 GL, which was deemed unlikely to be available.
- Regarding the proposed tailings dam of 90 hectares in size located on high ground above the Perry and Mitchell Rivers and containing mine tailings waste and flocculants both of which are known to be harmful to aquatic life, one has to question how harmful leaching of the waste will be to human health. There is a stated risk of leaching from the dam and the need for tailings release in time of flood would be considerable. Regarding water releases, the proposal suggests that dam water would be partly runoff from the mine area and therefore to guarantee low rates and safe water quality of discharges, approval should be required to release mine runoff into a natural stream draining to a RAMSAR site.

**Ground water**

- Bore water is the life-blood for farms extending throughout the wider region and the increased extraction proposed by the Fingerboards Mineral Sands Project threatens future supply and viability of these farms.
- The proposed borefield for the Project falls between the Wy Yung and Stratford groundwater management areas (Figure A6-1 of Central Gippsland GCS), in the area designated groundwater catchment, so is not directly subject to associated restrictions, but by Appendix 8: "*Where it can be demonstrated that extraction from the lower zone has no material impact on the upper zone, a licence is still required but upper zone management rules (in particular, PCVs and restrictions) would not appl*y." But in Appendix 8 it also states: "*New groundwater licences can be issued within this local management plan area with exception of the Lindenow, Lake Wellington, Moe Swamp Basin and Shady Creek Trading Zones.*" The proposed borefield is in the Lindenow Zone (Figure A8-3), so why would a licence be issued?
- If Southern Rural Water (SRW) did issue a licence, P34 has related statements on affecting other users. SRW Central Gippsland Groundwater Catchment Statement: "*If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the Water Act 1989 if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users. Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance*." How would SRW guarantee that other users will retain access to their water entitlement? How is 'significant impact' defined?
- Another conflicting point (Attachment C) that needs addressing is why compulsory acquisition of private land outside the Fingerboards Mineral Sands Project boundary is to be used for services such as water pipelines, bore pumps, bore field, roadworks, powerlines, easements, rail siding and vegetation removal?

CONCLUSION

Mineral sands are a necessary resource, however mineral sand deposits are abundant elsewhere in relatively remote and unproductive areas in western Victoria. Therefore there is no necessity for mineral sands mining and processing in the midst of a highly productive agricultural and horticultural community and popular tourist precinct close to Melbourne. In addition the wider East Gippsland region is renowned for its natural beauty, diverse flora and fauna and peaceful landscapes.

There is no justice nor planning sense in considering a proposal that threatens to destroy successful food production and tourism operations, and contaminate the health and water supply of the wider community. The degree of the threat and contamination level cannot be calculated as it is dependent on the vagaries of the weather and other unpredictable factors. This level of uncertainty is too great a risk when human health is at stake.

Having regard to the points made above, I believe the Fingerboards Mineral Sands Project is an inappropriate activity for this region and should be completely rejected.

Thank you for the opportunity to make this submission.
Yours sincerely,

Jennifer Wilkinson