

25<sup>th</sup> March 2021

Attention:

Inquiry & Advisory committee Panel Members

Submission 703 Supplement re Inclusion of Centrifuges

Kalbar Operations Pty Ltd, Fingerboards Project. East Gippsland

Author: Leanne Dyson

I acknowledge the Gunai Kurnai, Monero and the Bidawel people as the Traditional Custodians of the land that encompasses East Gippsland Shire. I pay my respects to all Aboriginal and Torres Strait Islander people living in East Gippsland, their Elders past and present.

Dear Inquiry and Advisory Committee members,

With the knowledge that Kalbar Operations is now planning to only use centrifuges instead of tailings storage dams I remain opposed to the entire Fingerboards Project proposal, predominantly because this project is in the wrong place. My opposition to the project is not being alleviated, instead, it is growing.

- The addition of centrifuges, the revelation of the project requiring significantly more water and the elimination of relevant tailings dams reports has highly concerning implications across the entire project.
- The method and circumstances in which these alterations have been introduced, confirms the impression of Kalbar's consistent lack of transparent, honest business practice.
- To remove the requirement of the tailings storage dams from the EES because of the use of the preferred use of centrifuges is premature and potentially extremely dangerous. Despite the proponent labelling dams or water storage differently, dams with highly toxic contents will be within the Fingerboards Project.
- Those who wish to write a supplement to their submissions in relation to centrifuges have insufficient information and time to effectively source relevant and useful data, thus making it difficult to fully understand the use of centrifuges and the implications of their inclusion in the project.
- The EES, in its original state has taken Kalbar many years to complete. They have had ample opportunity and funds to include centrifuges as an option within their EES. To introduce the use of centrifuges afterwards as an amelioration gives a mixed impression of intentions.
- Considering the extent of the changes/amelioration to the project, it is not good enough for only those who have placed EES response submissions to the IAC, to be the only people allowed to submit a supplement or submission in relation to the centrifuge inclusion.
- EES guidelines instructs the proponent to hold public information meetings. As the centrifuges have been introduced after Kalbar's EES was submitted, and deciding to make the tailing storage dams information irrelevant, the community should be kept up to date on the ever changing project dynamics by way of Kalbar holding transparent, public meetings to enable the public to make informed decisions about the Fingerboards Project.
- Avoidance of, or overlooking adequately informing the community involved and members of the wider community, is a dereliction of duty towards these communities. It can be seen as being extremely prejudicial to the fundamental rights and duty of care toward the East Gippsland community and its environment. Such behaviour leads to the question of whether Kalbar Operations has a Social Licence to operate.

- The proponents office doors were closed for a majority of the Covid-19 restrictions time, making it very difficult, or perhaps convenient, to not be able to consult face to face. Covid-19 restrictions are now being eased so there is no excuse not to hold public meetings.
- All these variables and changes are being enabled by the current guidelines of the EES process. They undoubtedly demonstrates the inadequacies of the said EES process and highlight the loop holes that are ripe for exploitation.



*View from Glenaladale Rd across Moulin Creek and Mitchell River. Note the topography, the mature trees, the grazing and cropping land that extends for another 25kms along the rich, fertile Lindenow Valley. The plateau in the distance and to the right is where Kalbar Operations intend to mine. Remember what is at risk.*

*Leanne Dyson photo.*



*View from Glenaladale Rd toward the Mitchell River National Park.*

*Leanne Dyson photo.*



When I heard of Kalbar Operations intention to use centrifuges in their Fingerboards Project my concern was heightened. Information on centrifuges isn't easy to find especially with such limited time allowance therefore I have the following questions-

1. Where is the information about the use of centrifuges within the Fingerboards Project EES?
2. Why is the notion of including or using centrifuges in the mineral sands mining process allowed to be added now, after the supposed completeness of the Fingerboards Project EES which was produced and submitted for this approval process in late October 2020?
3. Considering the implications and impact of the inclusion of centrifuges as well as the admission of a mistake in figures regarding significant additional water requirements for the project, why is this current EES being accepted? Does this not negate said EES?
4. Why has Kalbar Operations received no penalties due their omission of vital, extremely significant information and data in their said EES and resulting in the delay in IAC process?
5. If the centrifuge option was considered or thought to be an alternative to tailings dams prior to EES submission compilation, then why wasn't it included in the EES as a variable and/or possibility? Why is this current EES being considered as a fair and transparent representation of the Fingerboard Project when in fact, it is NOW NOT? *In 2018, Kalbar had explored the use of centrifuges according to an expert report (IAC Tabled Document 130 Appendix B) using a sample of slimes from the Fingerboards mine site.*
6. Centrifuges, from what information I have attained so far, have not been used in mineral sands mining in Australia, so why are they being considered to be used effectively, efficiently and safely within this Fingerboards Project?
7. Centrifuges are used within coal, tar sands, base metal, nickel refining, gold and borax mining but NOT in mineral sands mining, why?
8. If centrifuges have been used in mineral sands mining in other countries such as Sierra Leone and Brazil, what are the ecological, human rights and sustainability guidelines within those countries and how are they comparable to Australia's guidelines?
9. Do Kalbar Operations intend to use centrifuges in mineral sands mining at the Fingerboards as a guinea pig operation?



View north from property 2495 Lindenow Dargo Rd. Inside the proposed mine footprint Leanne Dyson Photo

**Comment:** The already fragile physical and mental health of many is at stake. Kalbar's late admission of modelling/data mistakes in their EES Submission, resulting in a significant increase in water requirements (from 3gig to 5gig) plus the late inclusion of centrifuges does not instil trust nor confidence in Kalbar Operations ability to carry out their desired project in a safe or trustworthy manor. How can the adversely effected stakeholders and the rest of the community have any faith in a company with no true demonstration of transparency or ethics?

The stress of Kalbar's relentless cloaked pressure upon increasingly vulnerable individuals and families is only compounding and elevating the situation. In light of Kalbar Operations (Resources) previous and current behaviour toward many stakeholders and the community as a whole, the current actions may be seen as a deliberate 'means to an end' tactics. Consider what this community has endured in more recent times...drought, fire, floods and everything that those disasters entail; then top it off with over seven years of Kalbar. It is interesting that Kalbar is included with natural disasters.

**An excerpt from NSW Mental Health Commission Mental Health and Rural Communities**

No Shame

Many people who live in country areas pride themselves on their resilience. Rural communities live at the mercy of the elements much more than people in the cities. They are more likely to be directly affected by the impact of droughts or floods, as entire local economies—especially those based on agriculture may depend on the weather.

Living and working to the rhythm of climate cycles requires great personal strength, and this roughness can translate into a reluctance to admit vulnerability or seek help when in trouble. Mental health difficulties may be interpreted as weakness by people who expect themselves and others to push through times of trouble, and who may therefore be hesitant to seek or offer support for psychological distress.

Compounding this reticence, people in small communities avoid seeking help from professional who are already known to them as neighbours or through local networks. People may fear their difficulty ill be revealed, and that this will reduce their standing in their community.

<https://nswmentalhealthcommission.com.au/mental-health-and/rural-communities#local>

Slurry to Cake to Void questions

1. What is the granule size within the slurry to be processed through the centrifuge system and what are the implications and impacts of the size on being able to successfully processed through a centrifuge and become cake?
2. Bearing in mind the cumulative nature of many chemicals and contaminants, what is the makeup of minerals, chemicals and other contaminants in the cake and how dangerous are they, to the ecology and human health?
3. Will the use of centrifuges alter the original void dimensions as stated in the EES and if so, what size will they be?
4. When the cake is put back in the mine void will it compact and how stable is it? Will subsidence be an issue?



*Mitchell River in flood, Bairnsdale 2003*

*This is only one of many Mitchell River flood events*

*Leanne Dyson photo*

**Concerns regarding Kalbar's' Technical Note 01 TN 01 Date: 18 January 2021**

**Subject: Implementation of centrifuges for water recovery and tailings management**

**Statement:** Page 1, After separation of the HM and coarse sand, a flocculant is added to the slimes tailings stream to improve the settlement of suspended solid particles in a thickener

**Comment:** The volume of flocculant required throughout the predicted 20 year life of this proposed project raises great concern for the adjacent waterways and their aquatic life. This cumulative impact of flocculant can and will cause irreversible harm to the Heritage listed Mitchell River and the Ramsar wetlands of Gippsland Lakes and everything that depends on their ecosystems. No Bond will be enough to fix the impossible.

**from** Coagulant and Flocculant fact sheet ,4 Ecotoxicity: By products of flocculants can in certain circumstances, become toxic to aquatic life. A high or low PH is often the trigger for the release of these materials in a toxic form.

<https://www.austieca.com.au/documents/item/818>

**Statement:** page 4, The centrifuge dewateres the cake to the absolute point of practical dewatering and any remnant water will remain entrained due to the capillary action between the water and solid particles.

...will not drain freely from the material.

**Comment:** What happens to these dewatered slurry, cake, that has been put back in the void if more water is added via a weather episode, east coast low, flooding? Has this been considered or even tested?

**Statement:** page 5 , In Figure 5 Centrifuge Fingerboards fines cake with centrate after being processed through the centrifuge two products are produced. Firstly a clear overflow (called the centrate) containing very little solids, and secondly a readily transportable solid cake.

**Comment:** The centrate comes from a slurry that contains highly toxic substances and other material, the statement that 'it contains very little solids' is deceptive. How clear is clear? Figure 5 on page 5 shows is jug of fluid that is not classed as clear. Just because the word clear is used does not equate to non-toxic or unpolluted. What does the 'clear overflow' (centrate) consist of and bear in mind the cumulative effect over the predicted mine life of 20 years?

**Statement:** page 4, Figure 4 Centrifuge Flowsheet showing slurry through Centrifuge, Centrate tank, Water pump and centrate to Process Water Dam

**Comment:** The process water dam which will contain centrate (contaminated toxic water from the slurry). Therefore this 'process water dam' has a very similar purpose to a 'tailings dam'. Labelling doesn't hide the facts. What is the proposed size of the process water dam and how many process water dams will there be?

**Statement:** page 5, Solid bowl centrifuge units are a proven technology and their application in tailings dewatering is not new.

**Comment:** Despite this application being stated as proven technology for dewatering tailings, why has it not been used in mineral sands mining in Australia before now?

**Statement:** Page 5 Figure 6 Centrifuge similar to the unit intended for Fingerboards. The centrifuges are enclosed in a building that can be cladded to reduce external noise to well within the guideline levels.

**Comment:** If the centrifuges are enclosed within a sound proofed building. Cladding may muffle the noise but as this process is intended to be in a populated rural area, any noise will travel and be extremely disturbing to residents and possibly to stock and other life. The fact that the centrifuge noise level will be added to the other mining noise, it will be cumulative and will without a doubt, increase the overall noise level of the entire proposed mine project.

**Statement:** page 6 Because the product is a truckable solid cake it can be immediately used for backfilling of the pit.

**Comment:** this truckable 'solid cake' material will consist of a concentrated toxic material with the inclusion of flocculent. Despite the proponent's claim that the water in this concentrated toxic 'solid cake' will not leech,



where is the proof of this claim? As stated before 'what happens if, for whatever reason, (weather event, east coast low, flooding) more water is added to the solid cake, either directly or via seepage. Does this cake begin to release its toxicity which intern can leech into waterways, ground water and topsoils? What tests have been done to address this possibility, if any?

**Statement:** page 6, *Whilst the EES demonstrates that the threshold levels can be achieved for both dust and noise, any further improvement to those levels would be advantageous to the project stakeholders including the local community.*

**Comment:** There is an issue with the belief that the EES has adequately demonstrated the threshold levels of dust and noise can be achieved. In fact, the impact on improvement to dust levels will be negligible and the noise level will be increased due to the addition of more machinery which will be creating noise 24/7, thus adding to the already accumulative noise of the mining operation.



*Tawny Frogmouth and its nest in tree near 1334 Fernbank Glenaladale Rd . All the trees along this road in the mine footprint will be removed. Effectively removing natural sound muffling and also making this tawny frogmouth homeless . Tawny frogmouths mate for life, it is a timid bird and relies upon its camouflage for safety. They are not good flyers and can live up to 14 years.*  
*Leanne Dyson photo*

Noise produced by six centrifuges within two, (three story) elevated, closed, clad buildings will not be quieter. The complete specifications from the centrifuge manufacturer (Alpha Laval) has not been provided but even without the specifications, logic and practicality prevails. How the proponent can claim a lower noise level due to adding these components to the mine process is ludicrous.

Have you spent a night out in the country? Have you experienced the way noise travels, especially in the night air? The fact that trees and vegetation do help to dampen sound, but will be completely removed from the mine site, will also contributes to the elevation of transmitted and raised noise levels. `

This padded, tin can excuse for muffling noise, built on an elevated site above the Mitchell River, Lindenow Valley will need more than cladding to dampen the noise emitted from these six centrifuges. The valley itself will be a conduit by which noise can travel. These centrifuges are not small, nor are they in small garden sheds. The sheer size of one centrifuge, much less six of them operating 24 hours a day along with all the other noise producing factors this project will emit, should be enough to convince anyone that there will be more noise, not less.

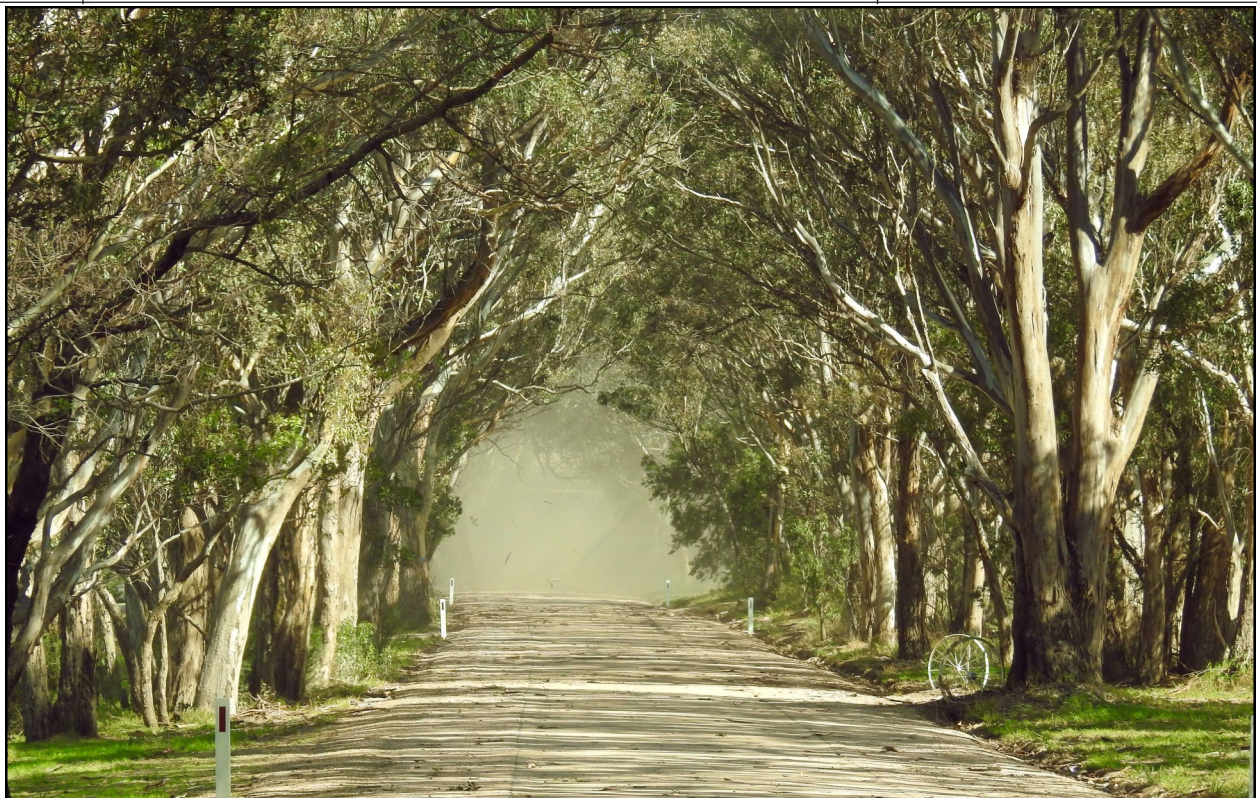
Like many issues with this project, the cumulative impact is being largely ignored.



Well over 200 Fingerboards EES submissions have concerns about Dust and below is a section of the document prepared by Kalbar Operations Pty Ltd in response to Direction No.26 issued by the Inquiry and Advisory Committee on 23 December 2020. This portion of the document demonstrates that at least 50 of the 900 Fingerboards EES submissions had significant concerns about the Noise which this project could, in all probability, generate.

**2.9 Noise**

| Issue # | Issue description  | Submission number #   |
|---------|--|---|
| 1.      | Concern that noise and vibration generated by all elements of the project (including but not limited to construction, mining operations, transport, etc), will negatively impact amenity, human health (including sleep disruption), livestock and wildlife. Some submissions express particular concern about night time noise within a low ambient noise setting.  | 15, 59, 69, 77, 78, 81, 89, 90, 109, 110, 157, 199, 202, 212, 225, 268, 305, 325, 344, 352, 365, 373, 375, 388, 399, 412, 436, 439, 442, 476, 478, 480, 484, 492, 506, 514, 535, 540, 546, 557 559, 564, 582, 813 |
| 2.      | Concern that baseline monitoring for noise and vibration was not appropriately conducted (including the under-reporting of sensitive receptors, noise logging at inappropriate locations for an insufficient period of time, in particular L4 in Lucas Gully, or when "one-off" harvesting activities were taking place)   | 303, 484, 506, 813  |
| 3.      | Concern noise from operations may not have been properly assessed (including by not undertaking Australian Noise Exposure Forecast mapping); noise from water pumps, Fernbank rail siding, and road and rail traffic have not been adequately considered. Concern about the assumptions used in the noise assessment about the speed of trucks on haul roads, and on the reliance of noise emission and terrain data provided by Kalbar. | 54, 299, 481, 813   |
| 4.      | Comment that the noise impact assessment does not comply with the scoping requirements in various respects, including diminished social wellbeing, public health, and impacts to flora and fauna   | 813   |
| 5.      | Comment that that different equipment types in different in different soil types will vary noise effects and emissions, and that tonal variances are relevant to the effects of noise on people, citing experiences at Bendigo and Keysbrook.  | 813   |
| 4.      | Concern that mitigation measures will not be implemented, or that monitoring and non-conformance reporting will not occur, to the required standard  | 202, 476, 481, 506, 813   |



*Random dust storm in 2019 on a sealed rural road near Bairnsdale (but there's no mine here) Leanne Dyson Photo*

I thank the IAC for allowing those who have tabled submissions to the Fingerboards Project EES the opportunity to add their voice to the centrifuge addition to the project.

THE IMPACT OF THE ACCUMULATION OF ALL THAT IS REQUIRED TO BE MITIGATED IN THIS PROJECT HAS NOT BEEN ACKNOWLEDGED.

WHAT IS AT STAKE IS EXTREMELY IMPORTANT AND SHOULD NOT BE MOTIVATED BY PROFIT

Leanne Dyson