



John Maassen

Chair, Barrytown Minerals Project Expert Panel
Environmental Protection Authority
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By email: substantive@fasttrack.govt.nz

28 September 2026

Dear John Maassen,

Re: Comment on Barrytown Minerals Project – Southern Block [FTAA-2605-1238]

Thank you for the opportunity to comment on the Barrytown Minerals Project – Southern Block (the current project) currently under consideration by the Barrytown Minerals Project Expert Panel (the Panel).

There are two main aspects of this project I recommend the Panel pay particular attention to. The first one relates to the impact of the sand mining activity and potential adverse effects on and from naturally occurring radioactive material (NORM). The second aspect is ambiguities in the proposal that could lead to unanticipated effects due to confusion about the activities that are consented or otherwise taking place at Barrytown.

Ionising radiation potential of the mining activities

Of primary concern to me is the risk associated with source material known to contain NORM. I am concerned there may be an increase in ionising radiation as a result of heavy metals in the mined sand being concentrated at the mineral separation plant (MSP) and then being returned in the tailings (waste materials) to the mining site after processing.

The substantive application states that “the ore, slimes and tailings associated with the mining activity under this consent application are not considered radioactive under the Radiation Safety Act 2016.”¹ This is supported by the statement of evidence of David Bougourd.²

However, I am aware of material published by Dr J.P. Bradley, in a peer-reviewed scientific journal, indicating that the concentrations of NORM and the level of radioactivity from the NORM in the source material at Barrytown could be substantially higher than that indicated by David Bougourd.³ Dr Bradley’s study indicates that sand mining and heavy-mineral separation at Barrytown would concentrate thorium- and uranium-bearing NORMs, thereby concentrating radioactivity and increasing radon emissions. Furthermore, the study suggests the secondary alteration of these minerals (via processing) could also promote leaching and the release of radionuclides into the environment.

I am not in a position to provide comment on which evidence should be relied on but bring it to your attention since it should be thoroughly and independently tested. Any potential increase in radiation, if confirmed, must be taken very seriously. Of particular concern is the

¹ See s 8.109 of Tāiko Critical Minerals (2026). Barrytown Minerals Project – Southern Block Substantive Application, May 2026.

² https://www.fasttrack.govt.nz/_data/assets/pdf_file/0030/29874/Appendix-L8A-Statement-of-Evidence-David-Bougourd-Radiation.pdf

³ Bradley, J.P., et al., 2026. Radiological Properties of Heavy Minerals in the Beach Sand Placer at Barrytown, New Zealand. <https://doi.org/10.1002/jgo2.70050>

planned progressive rehabilitation, which is to “take place with tailings from both the WCP and MSP processing being deposited to the rear of the mining void.”⁴ This is of concern, because following completion of mining, the disturbed area is to be returned to agricultural production, which may increase the longer-term public health risks from exposure to radiation.

It is concerning that the application lacks a detailed assessment of the impacts of radiation or radon on public health or the natural environment. For example, the expected radionuclide concentrations, information on the radiation that workers and the public may be exposed to, and details related to the management of potentially radioactive ‘waste’ material (e.g. tailings) both during operation and in the long-term, are missing. This may be because the applicant considers discharges of tailings and other ‘waste’ material following processing, at either or both the Wet Concentrator Plant (WCP) and MSP, are already consented or otherwise do not require consent. I have more to say on this below.

Issues pertaining to NORM and radiation in the receiving environment are novel in the New Zealand context. If consent is required for the return of tailings and other ‘waste’ material back to the receiving environment (including air), I consider it prudent to require dedicated assessments of the potential risks up front.

Accordingly, I strongly recommend that the Panel engage an independent expert in NORM and ionising radiation to support its consideration of the application.

Consented or proposed mineral-sand activities at Barrytown/Rapahoe

While investigating the concerns about ionising radiation from the sand mining at Barrytown, I have become concerned that interested parties may be conflating issues related to different projects. The role of the Panel is to assess the substantive application lodged by Tāiko Critical Minerals Ltd for the Barrytown Minerals Project – Southern Block, lodged under the FTAA. However, the Panel also needs to be cognisant of other activities in the Barrytown Flats that are directly related to the current application. This includes those that are discussed as being subject to a further application in future and those already consented.

There is a complicated consenting history for sand mining at Barrytown. This includes the current project (Southern Block) and at least two related projects consented by Grey District Council and West Coast Regional Council. These projects include:

- the 63-hectare block of land consented for mineral sand mining north of Canoe Creek by way of Environment Court consent order in October 2024, which included a Wet Concentrator Plant (WCP) (known as the Central Block consent);⁵
- a Mineral Separation Plant (MSP) at Rapahoe;⁶ and
- a change to the location of the WCP previously approved under the Central Block consent, which required separate individual consents from both Grey District Council and West Coast Regional Council.⁷

I observe that there is some ambiguity regarding the return or disposal of the ‘tailings’ to the mine void following processing of the material from the Southern Block at the WCP (and the MSP). Specifically, there is ambiguity as to whether this activity is being consented as part of this FTAA project or has otherwise already been consented. The consenting status of this

⁴ See s 3.7(e) of Tāiko Critical Minerals (2026). Barrytown Minerals Project – Southern Block Substantive Application, May 2026.

⁵ Environment Court Consent Order Decision No. [2024] NZEnvC 238 dated 2 October 2024 (consent reference West Coast Regional Council: RC-2023-0046 and Grey District Council: LUN-3154/23).

⁶ Granted 10 October 2025 by Grey District Council reference LU3329/25.

⁷ Granted 30 March 2026 by Grey District Council reference LU3473/25 and LU3489/25. Granted 3 February 2026 by West Coast Regional Council reference RC-2025-0170-01.

activity should be clarified and any additional consents that are deemed to be required should be included in the application.⁸

Finally, while the current application does not explicitly refer to rare-earth elements (REE) recovery, TCM has publicly described REE as part of the Barrytown resource and its intended mine-to-market strategy.⁹ The implications of extracting REE from the mined sand at Barrytown flat, should it be an intended activity, should be made very clear. It may be that a further consent is required in future to undertake this activity. From what I understand, it also seems fair to assume that the process of REE extraction would change the make-up of, and increase the concentration of ionised material in, the tailings.

With kind regards

A handwritten signature in black ink, consisting of a series of loops and a long vertical stroke, positioned above the printed name.

Rt Hon Simon Upton
Parliamentary Commissioner for the Environment
Te Kaitiaki Taiao a Te Whare Pāremata

⁸ This activity does not appear to be included in the rules assessment for the current application in either section 7 or Appendix N of Tāiko Critical Minerals (2026). Barrytown Minerals Project – Southern Block Substantive Application, May 2026.

⁹ Monazite is a mineral that serves as a major commercial source for rare-earth elements. It is mentioned in s 5.15 of Tāiko Critical Minerals (2026).