

Technical Memorandum

To: Hearing Commissioners TiGa Minerals and Metals Ltd.

From: Graeme Ridley, Ridley Dunphy Environmental Limited.

Date: 7th February 2024.

Re: Response to clarification from Hearing Commissioners – Resource Consent applications by TiGa Minerals and Metals Ltd to operate a mineral sands mine on State Highway 6, Barrytown.

1.0 Dust evidence of submitter

I confirm that I have read the statement of evidence of Tammy Ward and Chris J Cromey for Coast Road Resilience Group INC dated 29th January 2024. This is a submission in response to the above resource consent application.

The focus of the submission is around dust management on the proposed site. The submission undertakes an analysis of the Dust Management Plan TiGa January 2024 (DMP) that was provided as part of the TiGa hearing process and the submission in general terms reaches a conclusion that further detail is required and that *“actual parameters of dust control seem quite limited.”*¹

I have reviewed the DMP as referenced, and I confirm that in my experience with earthwork operations over the last 30 years, that dust management is a key element of all earthwork sites and remains a key consideration. Earthwork sites have a responsibility to manage dust such that effects of dust do not result. The primary control measure on most earthwork operations for this dust management is application of water and ensuring that this is at a rate that minimises dust generation, and any subsequent dust discharges, from the sites. In addition, other measures such as vehicle speed limitations and minimising drop heights are both important considerations. I also note the benefits of progressive stabilisation and open disturbed area limitations both of which will assist significantly in minimisation of dust generation on sites.

As part of my review of the DMP, I confirm that the detail within the DMP provides a focus on the key sources of dust and confirms the measures that will be implemented to address any dust generation and discharge. Table 4.1 provides a list of measures to be implemented and in my assessment represents best practice measures and reflects the primary control measures as noted above.

¹ Paragraph 6.4

Further to this the proposed conditions of consent (dated 2nd February 2024) outline a process for monitoring dust and in particular notes that *“There shall be no offensive or objectionable discharge of dust into air from the minerals extraction, processing and loading operations that results in an adverse effect beyond the legal boundary of the site²”*.

In addition, the suite of management plans that are required includes a Dust Management Plan³ with this subject to Consent Authority review and certification prior to site activities⁴.

Overall therefore, and in particular with my experience on earthwork operations over a long period of time, the dust management measures proposed and the process of the development of a DMP for certification, both represent a robust approach for the Barrytown project. The monitoring proposed⁵ will also inform the Consent Authorities throughout with the ability to amend measures as necessary.

2.0 Access road and plant site surface

I was requested to also provide feedback on the suitability or otherwise of the nature of the surface of the access road entering the site and also the plant site itself. Both of these are proposed to be a compacted hardfill material surface with the entry directly off State Highway 6 subject to traffic regulations and I understand will be sealed at that entry / exit point.

I have utilised and observed hardfill material on many road and access locations on earthwork sites throughout New Zealand and I confirm that provided appropriate “clean” hardfill materials are utilised and provided that this is formed with good engineering practice such that a suitable compaction layer is established, then there are no issues that result in achieving a fully stabilised surface. I acknowledge that maintenance of this surface can be necessary to remedy some locations where rutting or holes may develop however this is a simple maintenance procedure and can be undertaken as required on an ongoing basis as necessary.

I remain comfortable that if the access road and plant site platform are established and maintained as above then dust generation and surface erosion will both be minimised accordingly.

G.S. Ridley

Graeme Ridley, **Ridley Dunphy Environmental Limited**

² Condition 28.1

³ Condition 6.1

⁴ Condition 6.3

⁵ Conditions 28.1 to 28.4