

**BEFORE THE ENVIRONMENTAL PROTECTION AUTHORITY
AT WELLINGTON**

IN THE MATTER of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (**EEZ Act**)

AND

IN THE MATTER of an application for marine consent under section 38 of the EEZ Act by Trans-Tasman Resources Limited to undertake iron ore and processing operations offshore in the South Taranaki Bight

BETWEEN **Trans-Tasman Resources Limited**
Applicant

AND **Environmental Protection Authority**
EPA

AND **Fisheries Inshore New Zealand Limited, New Zealand Federation of Commercial Fishermen Inc, Talley's Group Limited, Southern Inshore Fisheries Management Company Limited and Cloudy Bay Clams Limited**
Fisheries Submitters

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF
MR JORIS GERARD LEONARD JORISSEN FOR FISHERIES
SUBMITTERS**

Dated: 18th May 2017

In response to DMC Minute 41

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INTRODUCTION

1. My name is Joris Gerard Leonard Jorissen. I am a senior coastal engineer at Jacobs Australia Pty Limited in Brisbane, Australia.
2. I completed my primary statement of evidence on laboratory testing and sediment plume modelling on 23 January 2017,¹ participated in the first expert conference on Sediment Plume Modelling on 13 February 2017,² and the second expert conference on Sediment Plume Modelling – Setting Worst Case Parameters - on 23 February 2017.³
3. I have also prepared a supplementary statement of evidence on the “*materiality*” of the additional sediment plume modelling undertaken by Trans-Tasman Resources Limited (TTR) following the second conferencing session of Sediment Plume Modelling experts.⁴ This is my third statement of evidence that I have prepared in relation to revised plume information prepared by TTR during this hearing.
4. My qualifications and experience are set out at paragraphs [7] to [9] of my primary evidence.

CODE OF CONDUCT

5. I repeat the confirmation in my primary evidence that I have read the Environment Court Code of Conduct for expert witnesses and agree to comply with it.
6. I confirm that the topics and opinions addressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

¹ Primary expert evidence of Joris Gerard Leonard Jorissen on laboratory testing and plume modelling, dated 23rd January, 2017.

² Joint Statement of Experts in the Field of Sediment Plume Modelling, dated 13th February, 2017.

³ Joint Statement of Experts in the Field of Sediment Plume Modelling – Setting Worst Case Parameters, dated 23rd February, 2017.

⁴ Supplementary statement of Joris Gerard Leonard Jorissen, dated 7th April, 2017.

PURPOSE OF EVIDENCE

7. The purpose of this evidence is to comment on the additional information recently supplied by TTR related to matters raised in DMC Minute 41.
8. As stated in my previous statements and in the joint statement of sediment plume modelling experts, insufficient information was provided as part of TTR's application to appropriately assess a number of important aspects of the potential release of fine sediments resulting from the proposed mining activity. Consequently there is uncertainty whether or not the sediment plume modelling undertaken by TTR can be relied upon to assess the associated environmental impacts.
9. Key aspects where insufficient evidence is provided relate to the composition of the seabed material, specifically the particle size distribution, and the effects of processing on board the Integrated Mining Vessel (IMV) on the sediment composition and the rate of release.
10. A new set of conditions has been proposed by TTR⁵ to limit the sediment discharge rate being discharged into the sea (condition 5), and provide controls on the maximum suspended sediment concentrations allowed to be present within the receiving environment during operations (condition 6). These conditions are aimed at reducing the risks associated with suspended sediment concentration impacts resulting from the proposed mining activity.
11. Condition 5.c provides upper limits for the discharge rates of fine sediments for a range of temporal intervals. From Dr. Mitchell's supplementary evidence, I understand that the limits of conditions 5.c relate to the end-of-pipe rates of fine sediments (i.e. the total rate of fine sediments being discharged into the sea).
12. The limits in condition 5.c are defined in a volumetric rate of (solid) fine sediments (i.e. m³/hr), which Dr. Mitchell suggests is the most appropriate way to set a discharge limit. I consider that a mass-based discharge rate (tonnes/hr), as used in plume modelling investigations, is a more appropriate metric.

⁵ Appendix 1 of Dr. Mitchell's supplementary evidence, dated 2nd May.

13. If implemented, conditions 5 and 6 are likely to limit the suspended sediment concentration impacts to those predicted in the sediment plume modelling reports. However, to meet the objectives of the conditions, it will be necessary to undertake monitoring activities to demonstrate compliance with the condition requirements.
14. Insufficient information has been provided on the measures and procedures that TTR proposes to implement to demonstrate compliance with condition 5 during operations.

Dated 18th day of May 2017



Joris Jorissen